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House of Representatives 101st Congress 1st Session Document No 101-84

Resolved: That the Federal Government Should Adopt an Energy Policy Which Substantially Reduces the Non-Military Consumption of Fossil Fuels in the United States.

Intercollegiate Debate Topic
1989-90

Pursuant to Public Law 88-246

Compiled by the Congressional Research Service
Library of Congress

H920-12

PUBLIC LAW 88-246, 88TH CONGRESS, S. 2311,
DECEMBER 30, 1963

AN ACT To provide for the preparation and printing of compilations of materials relating to annual national high school and college debate topics.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Librarian of Congress is authorized and directed to prepare compilations of pertinent excerpts, bibliographical references, and other appropriate materials relating to (1) the subject selected annually by the National University Extension Association as the national high school debate topic and (2) the subject selected annually by the American Speech Association as the national college debate topic. In preparing such compilations the Librarian shall include materials which in his judgment are representative of, and give equal emphasis to, the opposing points of view on the respective topics.

Sec. 2. The compilations on the high school debate topics shall be printed as Senate documents and the compilations on the college debate topics shall be printed as House documents, the cost of which shall be charged to the congressional allotment for printing and binding. Additional copies of such documents may be printed in such quantities and distributed in such manner as the Joint Committee on Printing directs.

Approved December 30, 1963.

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Congressional Research Service
The Library of Congress

Washington, D.C. 20540

FOREWORD

The 1989-1990 intercollegiate debate topic is "Resolved: that the Federal Government should adopt an energy policy which substantially reduces the non-military consumption of fossil fuels in the United States."

In compliance with Public Law 88-246, the Congressional Research Service of the Library of Congress prepared this bibliography and study guide to assist college and university debaters in researching the topic. In selecting items for this manual, the Congressional Research Service (CRS) has attempted to sample and to cite the wide spectrum of opinions reflected in current literature on this question. No preference for any policy is indicated by the selection or positioning of articles cited, nor is CRS approval or disapproval of any policy or article to be inferred from its inclusion or omission.

The annotated bibliography covers such topics as fossil fuels, alternative energy sources, energy conservation, petroleum resources, environmental protection, and other issues related to energy policy.

A research guide is included at the end of this volume; it is intended to help debaters identify further references and organizational resources. Also included is a list of relevant publications that are available for purchase from the Superintendent of Documents, U.S. Government Printing Office. Some of the U.S. Government documents listed in the manual may be found in U.S. Government depository libraries, which can be identified by local public libraries. The Library of Congress cannot distribute copies of these or other materials to debaters.

This bibliography and research guide were prepared by Charles Dove, Bibliographic Specialist in the Library Services Division. Martha Lederer produced the bibliography, index, and research guide.

Good luck to each debater in researching, preparing, and presenting arguments on this year's topic.

Joseph E. Ross, Director
Congressional Research Service

INTRODUCTION

This bibliography is designed to assist college and university debators on the 1989-1990 Intercollegiate Debate Topic on energy policy. It examines such issues as fossil fuels, energy conservation, alternative energy sources, greenhouse effect, petroleum reserves, and also includes general information on energy and environmental issues.

The majority of the citations in this annotated bibliography were obtained from the computerized Congressional Research Service Bibliographic Database, created and maintained by the Library Services Division. Other materials were selected from the collections of the Library of Congress and the Congressional Research Service.

The bibliography is arranged by author and includes an index arranged by title. The index was generated by WordPerfect software and does truncate titles.

The author wishes to thank his colleagues in the Congressional Research Service for their assistance in the preparation of this bibilography. Thanks are extended to Kristin Vajs, Head, Subject Specialization Section, Library Services Division, and to Richard E. Rowberg, Chief, Science Policy Division; Clyde Mark, Foreign Affairs and National Defense Division; and Salvatore Lazzari, Economics Division, for their review of this product. Thanks are also extended to Martha Lederer, Library Services Division, for her role in the preparation of this bibliography and the related index. Special thanks are extended to Constance Carter, Head, Science Reference Section, Library of Congress Science and Technology Division for her comments.

Materials in this bibliography may be located at a nearby public, research, or depository library. The Congressional Research Service cannot provide debaters with copies of the items listed.

RESOLVED THAT THE FEDERAL GOVERNMENT SHOULD ADOPT AN ENERGY POLICY WHICH SUBSTANTIALLY REDUCES THE NON-MILITARY CONSUMPTION OF FOSSIL FUELS IN THE UNITED STATES.

Abelson, Philip H.

Energy futures. American scientist, v. 75, Nov.-Dec. 1987: 584, 586-593.

"The United States is failing to ensure against a major economic disaster that might be brought on by a severe shortage of liquid fuels . . . . The relative abundance and inexpensiveness of petroleum have led to increasing reliance on this single source and left us vulnerable when supplies dwindle and prices rise. To meet the challenge this situation poses, ways must be found to exploit untapped reserves of oil and natural gas and develop new sources of liquids from coal."

Adamson, David M.

Soviet gas and European security. Energy policy, v. 13, Feb. 1985: 13-26.

"This article probes the energy security issues associated with Western Europe's imports of Soviet gas. The prime focus is on France, but the situations of FR Germany and Italy are also examined. The analysis suggests that growing West European dependence on natural gas from sources judged politically unreliable will not entail dire or immediate vulnerability to supply cut-offs."

Ahearne, John F.

Will nuclear power recover in a greenhouse? Washington, Resources for the Future, 1989. 83 p. (Discussion paper ENR89-06)

"Commercial nuclear power is an important source of electricity worldwide, although the growth of nuclear power stagnated in the United States in the 1970's. Concerns about C02 emissions from fossil fuel plants may lead to a reconsideration of nuclear power. The major problems in the United States which led to removing nuclear power as a choice for new generating capacity were lack of growing demand for electricity, rising costs per plant, and bad management, as well as growing public opposition. Unless these issues are recognized and addressed, greenhouse warming will not lead to nuclear power being chosen when utility executives select technologies to pursue for meeting new demands. Actions by Congress, the public, and the industry are needed."

Ahrari, M. E.

Congress, public opinion, and synfuels policy. Political science quarterly, v. 102, winter 1987: 589-606.

"The soft oil market made federal commitment to capital-intensive synfuels totally unnecessary. This situation also made it considerably easier for the Reagan administration to reduce drastically the commitment of the federal government and to introduce substantial cutbacks in the administrative responsibility of the Synthetic Fuels Corporation."

Alich, John A., Jr. Witwer, Jeffrey G.

Agricultural and forestry wastes as an energy resource. Solar energy, v. 19, no. 6, 1977: 625-629.

The authors evaluate "the feasibility of converting agricultural and forestry residues to energy based on a county-by-county inventory for the contiguous United States. The impact of this energy resource on the U.S. energy system is forecast using the Stanford Research Institute energy model."

Allen, Richard.

The impact of CO2 on world climate: a cause for concern. Environment, v. 22, Dec. 1980: 6-13, 37-38.

Forecasts a doubling of carbon dioxide in the atmosphere in 50 years, the consequent warming effect of which will disrupt the world's food supply; the international cooperation needed to prevent this will be exceedingly difficult involving protection of tropical forest and not burning fossil fuels.

Alm, Alvin L.
Energy supply interruptions and national security. Science, v. 211, Mar. 27, 1981: 1379-1385.
"Vulnerability to oil supply interruptions poses serious threats to the U.S. economy and the life-style of its citizens . . . . Use of the marketplace to allocate shortages, coupled with rebates to cushion blows to the economy and hardship to individuals, would be eminently more efficient than government allocation programs."

Andrews, Dave.
Power from the people. New scientist, v. 110, Apr. 24, 1986: 36, 38-39.
Minichips (for miniature combined heat and in-house power) generate power on a small scale more efficiently than do giant power stations. Discusses their increasing use in Britain.

Are we slipping into another energy crisis? Conservation Foundation letter, no. 4, 1987: whole issue (8 p.)
"In Congress and elsewhere, a major debate is under way over the prospects of a new energy crisis and what to do about the threat. Environmentalists emphasize the importance of conservation and renewable energy supplies not only to prepare for a rainy day but also to enable the nation to move into a new age after petroleum reserves are exhausted. Energy policy options have both economic and environmental effects that reverberate around the world."

Barnard, Geoffrey W.
The use of agricultural residue as fuel. Ambio, v. 14, no. 4-5, 1985: 259-266.
"Extreme pressures on fuelwood supplies have caused agricultural residue to become an attractive energy alternative in many rural areas. Farm animals, for example, can produce up to five times their weight in burnable dung annually, while residues left from crops can also provide essential biomass. The benefits of residue use must be weighed against possible effects on the soil, however."

Beanlands, Gordon E. Duinker, Peter N.
Lessons from a decade of offshore environmental impact assessment. Ocean management, v. 9, Sept. 1984: 157-175.
Compares the approaches of the U.S., U.K., and Canada to environmental impact assessment for offshore developments. The authors recommend greater emphasis on cooperative planning of the assessment, adoption of a set of guidelines for all EIS's, and post-construction environmental monitoring.

Biofuels. Forum for applied research and public policy, v. 3, winter 1988: 37-68.
Contents.--Biofuels: production and potential, by John I. Zerbe.--Ethanol fuel: the policy issues, by Gerald E. Grinnell.--Learning from the Brazilian ethanol program, by Norman Rask and Fernando Curi Peres.--Alcohol fuels and TVA's biomass research, by John W. Barrier.--Ethanol: fueling America's future, by Eric Vaughn.--Ethanol: a home-grown answer to a host of problems, by Richard J. Durbin.

Blair, Peter D.
New electric power technologies: cost and performance in the 1990s. Energy systems and policy, v. 10, no. 3, 1987: 189-217.
Reviews the Office of Technology Assessment's perception of probable cost and performance of atmospheric fluidized-bed combustion, integrated coal gasification combined cycle plants, fuel cells, compressed air energy storage, advanced battery systems, photovoltaics, solar thermal, wind turbines, geothermal power plants, and load management systems in the 1990's.

Bland, F. Paul.
Problems of price and transportation: two proposals to encourage competition from alternative energy sources. Harvard environmental law review, v. 10, no. 2, 1986: 345-416.
This article concludes "while much has been written about the value of competition in the electric utility industry, that goal can only be meaningful if the fledgling independent producers are given a full and fair opportunity to compete. Such an opportunity will not exist unless the monopoly power currently possessed by utilities is countered."

Blevins, Deborah Lynn.
The new oil crisis and fuel economy technologies: preparing the light transportation industry for the 1990s. New York, Quorum Books, 1988. 268 p.
Contends that the low oil prices of the 1980's will give way to another major oil crisis. Calls for the development of automobile fuel economy technologies.

Bobrow, Davis B. Kudrle, Robert T.
How middle powers can manage resource weakness: Japan and energy. World politics, v. 39, July 1987: 536-565.
Using Japan as an example, shows that a country of limited natural resources can surpass other nations in economic performance by fashioning certain energy policies. Emphasizes the relationships among the international environment, national objectives, and national energy policies.

Bower, Leonard G.
Present and future oil usage. Forum for applied research and public policy, v. 2, fall 1987: 19-23.
"The United States is not about to run out of oil in a physical sense, analogous to the draining of a swimming pool. Data on both proven reserves and potential supplies suggest that the United States can continue to be a major oil producer and that overall world supply will likely meet demand well into the next century. Moreover, as the resources base is depleted, the price will rise--serving as a signal for investors to develop oil's extensive supply margin. Rising prices will also stimulate the use of substitute forms of energy and encourage conservation."

Brechner, Berl.
Harvesting the wind. Air & space, v. 3, Aug.-Sept. 1988: 68-74.
Describes the increasing use of wind power, especially in southern California, and the styles of wind turbines which are most effective.

Broadman, Harry G.
The social cost of imported oil. Energy policy, v. 14, June 1986: 242-252.
Concludes that "a tariff is likely to be the best candidate to close the gap between private incentives and social benefits arising from the effect of import demand on the world oil price" however "measures such as strategic petroleum reserves and customized taxes or subsidies targeted at the energy-using investment process can better internalize the external costs depicted by the disruption component . . . ."

Brown, Lester R.
The vulnerability of oil-based farming. World watch, v. 1, Mar.-Apr. 1988: 24-29.
Since about 1950, farmers have increased food output by increased use of fertilizers and irrigation. Both these farm management tools are energy- intensive; on average, farmers use over a barrel of oil to produce a ton of grain. The author calls for reduced tillage, more efficient irrigation technologies, and crop rotation.

Brozen, Yale.
The mythology of energy. Freeman, July 1979: 387-392.
Refutes the contention that the world will run out of oil in the 1980s. Argues that the U.S. is not vulnerable to oil embargo by the Mid-East countries and contends that the Strategic Petroleum Reserve Program is unnecessary. Criticizes four other assumptions made by energy policymakers.

Burnett, W. M. Ban, S. D.
Changing prospects for natural gas in the United States. Science, v. 244, Apr. 21, 1989: 305-310.
"Natural gas has emerged as one of the primary options for satisfying the need for environmentally clean energy: the resource base is large, it is the cleanest burning of the fossil fuels, and it can be used efficiently. New engine, combustion, and energy conversion technologies are emerging that will result in use of natural gas in electric generation, emissions reduction, transportation, and residential and commercial cooling."

Canada. OPEC bulletin, v. 14, July 1983: 27-38.
"Canada's energy situation is unusual among industrialized countries. It possesses major proved reserves of petroleum, natural gas, coal, and uranium, and significant potential for further discoveries. In addition, renewable energy in the form of hydro electric power generation provides two-thirds of the country's electric power supply."

Canto, Victor A. Kadlec, Charles W.

The shape of energy markets to come. Public utilities fortnightly, v. 117, Jan. 9, 1986: 21-28.

"A significant shift to non-OPEC energy supplies made possible by the substitutability of various fuels and new discoveries of oil and gas throughout the world have been instrumental in bringing about the demise of that powerful cartel. Given more freedom in the market, what will happen to oil prices and the demand for all types of fuels? The authors of this article share their projections for petroleum price and market share and the response by other energy markets."

Chandler, William U. Geller, Howard S. Ledbetter, Marc R.

Energy efficiency: a new agenda. Washington, American Council for an Energy-Efficient Economy, 1988. 275 p.

Proposes that the U.S. reduce energy intensity by at least 2.5% yearly. As policy priorities, suggests that the nation "apply energy-efficiency to protect the national and global environment; double car and light truck fuel economy to cut oil imports; promote least-cost utility services; enhance industrial competitiveness with energy-efficiency research; make buildings more efficient to improve their affordability; help developing countries acquire skills and technologies for energy efficiency."

Energy efficiency: a new agenda. Washington, American Council for an Energy-Efficient Economy, 1988. 76 p.

Describes six policy measures aimed at creating an energy-efficient economy. These include: "apply energy-efficiency to protect the national and global environment; double car and light truck fuel economy to cut oil imports; promote least-cost utility services; enhance industrial competitiveness with energy-efficiency research; make buildings more efficient to improve their affordability; help developing countries acquire skills and technologies for energy efficiency." Authors urge the adoption of these measures as a means to protect and enhance environmental quality, economic competitiveness, and energy security.

The Changing world energy economy; papers and proceedings of the eighth annual North American Conference, Nov. 19-21, 1986. Cambridge, Mass., MIT Center for Energy Policy Research, 1987. 548 p.

Includes 93 papers or abstracts of papers on various aspects of energy economics.

Chern, Wen S.

Aggregate energy and oil demand in less developed countries. Energy systems and policy, v. 10, no. 1, 1987: 73-91.

"This article presents the econometric models for estimating demand for aggregate energy and oil products for the selected 15 major energy-consuming LDCs . . . . The forecasting results show that aggregate energy demand and oil demand would likely increase at relatively high rates in comparison with most of the industrialized nations."

Chichilnisky, Graciela. Heal, Geoffrey.

The world oil market, past and future. Columbia journal of world business, v. 19, spring 1984: 47-53.

Oil price behavior has changed dramatically in the last twenty years. These changes can be explained rather simply in terms of the delayed responses of supply and demand to prices, and in terms of changes in the rate of discovery of reserves. This analysis can be used to forecast possible future developments."

Clean coal. Forum for applied research and public policy, v. 4, spring 1989: 26-47.

Contents.--Scrubbers: a proven technology, by Larry B. Parker.--Clean coal: a prototype for R & D collaboration, by Kurt E. Yeager.--Importance of clean coal on increase, by Wendell Ford.

Cooper, Mary H.

Setting environmental priorities. Washington, Congressional Quarterly, 1988. 614-627 p. (Editorial research reports, 1988, v. 2, no. 21)

Contents.--The problems.--Global warming.--Ozone depletion.--Acid rain.--Air pollution.--Indoor pollution.--Garbage.--Nuclear waste.--The solutions.--Energy efficiency.--Worldwide effort.--More regulation?

Includes pro and con discussion between H. H. Woodson and Ken Bossong over whether nuclear power should be increased to meet energy needs and protect the environment.

Copulos, Milton R.
America's looming energy crisis: the causes. Washington, Heritage Foundation, 1987. 8 p. (Backgrounder no. 578)
"America once again has wandered into energy complacency. It is a complacency that could be shattered at any moment by a new Arab embargo. Only concerted and immediate action by the President can avoid the worst consequences of such an import disruption. America has plenty of energy at its disposal--in the form of domestic oil resources and alternatives to oil. The development of these resources is constrained by past policies and threatened by proposed new ones. Rather than working for a secure energy future, the federal government still is working against one."

Securing America's energy and mineral needs. Washington, Heritage Foundation, 1989. 52 p. (Critical issues)
Urges a two-prong strategy to prevent vulnerability to unstable and hostile suppliers. First, relax government-imposed restrictions on energy and mineral exploration on Federal lands, including tax and antitrust obstacles. Second, modernize the Pentagon's strategic mineral stockpiles, which currently contain minerals that are either in surplus or in the wrong form for use in a conflict.

Crow, Patrick. Williams, Bob.
Arctic National Wildlife Refuge: will it be leased or locked up? Oil & gas journal, v. 85, Feb. 2, 1987: 12-15.
"What's at stake for the industry is the best and perhaps last chance to find another giant oil field equivalent to Prudhoe Bay." While "the chief environmental issue is protection of the Porcupine caribou herd, an issue that extends to Canada and native Alaskan subsistence lifestyles."

D'Alessandro, Bill.
Dark days for solar. Sierra, v. 72, July-Aug. 1987: 34-37.
"In an era of cheap oil, the promise of an inexhaustible and nonpolluting energy source isn't enough to fuel the solar industry. Without government backing or a technological breakthrough that halves the cost of solar equipment, it will take hard times--like a repeat of the oil embargo--to make good times for the solar industry."

Dakers, Sonya.
Eastcoast offshore oil and gas development. 12 May 1983; reviewed 15 Apr. 1988. Ottawa, Research Branch, Library of Parliament, 1988. 18 p. (Current issue review 83-5E)
Discusses the problems and benefits associated with exploration and development, giving special attention to the Venture natural gas field, the Hibernia oil field, and the jurisdictional dispute between the Federal government and Newfoundland. Author also addresses environmental and socioeconomic impacts and the safety problems of offshore drilling.

Darnell, Tim.
Oil on the Ohio: lessons learned. American city & county, v. 103, June 1988: 34-36, 40, 42, 44.
Describes the January 1988 oil spill in the Ohio River Valley when an Ashland oil storage tank collapsed and dumped over 3 million gallons of diesel fuel into the Monongahela River. Reports on how communities responded and emphasizes the importance of emergency management.

Davey, W. G.
Energy issues and policies in Eastern Europe. Energy policy, v. 15, Feb. 1987: 59-72.
A Council of Economic Mutual Assistance (CEMA) meeting held in June 1984 produced a revised energy agreement between the Soviet Union and the six nations of Eastern Europe. This article examines issues and policies in East Germany, Poland, Czechoslovakia, Hungary, Bulgaria, and Romania individually and considers future prospects for their energy policies.

Davis, Ruth M.
National Strategic Petroleum Reserve. Science, v. 213, Aug. 7, 1981: 618-622.
"The Strategic Petroleum Reserve is intended to reduce the vulnerability of the United States to interruptions in the oil supply from foreign sources. Storage for 248 million barrels of crude oil in salt caverns and mines, with equipment for pumping and

distribution, was constructed and operationally tested in a 4-year period. Its present inventory is the largest known crude oil reserve in the world. Facilities for expanding the reserve's capacity by another 290 million barrels are being developed by solution-mining in salt domes."

DeCarmoy, Guy.
Energy security in the industrialized world. Energy policy, v. 14, Aug. 1986: 292-296.
"The purpose of this viewpoint article is to summarize the vagaries of the oil market since the 1960s, to outline the actions of the major industrial countries in their quest for energy security, to assess the reasons for the fall in oil prices and the prospects for the supply and demand for oil up to 2000 and to evaluate the economic security risks and the geopolitical risks related to oil."

Deese, David A. Nye, Joseph S.
Energy and security. Harvard magazine, v. 83, Jan.-Feb. 1981: 40B-40H.
Disruption of Middle Eastern oil supplies would pose a major threat to our national security. The authors urge stockpiling, a market-allocation system, and increased international cooperation.

Dienes, Leslie.
The Soviet oil industry in the twelfth five-year plan. Soviet geography, v. 28, Nov. 1987: 617-655.
Considers recent conservation and oil displacement, focusing on the problem of petroleum supplies, on factors affecting supply expansion, and on Soviet efforts and plans in the field. "Investment growth in the oil industry and its regional allocation in the 1980s and beyond are examined. The nature and thrust of the exploratory effort, its relationship to the new reserve classifications, and to prospects for the Soviet oil industry are analyzed. Finally, the causes of the current rebound in output and Soviet plans for field development are assessed."

Dietzman, William D. Rafidi, Naim R.
The petroleum resources of South America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, and Peru. Washington, Energy Information Administration, 1983 [i.e. 1985] 315 p.
"DOE/EIA-0467"
"The status of the known and undiscovered recoverable crude oil and natural gas resources of seven South American countries is analyzed. The report also assesses the potential future availability of such resources to world markets."

DiLullo, Joseph G.
Energy security. National defense, v. 68, Jan. 1984: 34-35, 58.
Describes criticism of the Reagan Administration's free-market approach to U.S. vulnerability to Middle Eastern oil stoppages. Discusses the work of the International Energy Agency and warns that "if the industrialized oil-consuming states ignore basic international energy issues now, they may find a weaker IEA in the future, forcing them to seek individual rather than collective solutions in the wake of another oil emergency."

Direct action on oil. Issues in science and technology, v. 5, spring 1989: 82-87.
Presents both immediate and long-term options for reducing dependence on OPEC. These include reducing the use of oil in transportation, reducing industrial oil use in OECD countries, containing oil use in developing countries, stabilizing non-OECD oil production, filling the SPR, increasing funding for geosciences research, demonstrating an alternative automotive fuel, and keeping electric generation options open.

Dorian, James P. Clark, Allen L.
China's energy resources: potential supply, problems, and implications. Energy policy, v. 15, Feb. 1987: 73-90.
"This paper presents a preliminary systematic resource assessment of China's primary energy resources by province. Petroleum, natural gas, coal and uranium are assessed and examined in terms of availability and future production potential. China's policies for long-term development of these energy resources are also analysed, with particular emphasis on the scope of problems that may be encountered during future development."

Drummond, William K.
Small hydro advocacy. Alternative sources of energy, no. 72, Mar.-Apr. 1985: 34-36.
"Until developers begin to articulate their position before the state public utility commission, development will continue to suffer."

Durning, Alan.
Setting our houses in order. World watch, v. 11, May-June 1988: 26-34.
Discusses energy use in U.S. homes and describes how home energy efficiency can be achieved.

Eberhart, Annie.
If you can't stand the heat . . . read on for a citizen's guide to some sensible steps for cooling off the earth. Public citizen, v. 8, Nov.-Dec. 1988: 12-17.
Discusses the greenhouse effect and its likely implications. About half of all global warming is thought to come from increased atmospheric carbon dioxide because of the burning of fossil fuels. This article suggest ways for government, businesses, and individuals to curb global warming. It stresses the importance of energy efficiency, alternative energy sources, and forest conservation. A sidebar article describes other greenhouse gases: ozone, chlorofluorocarbons, methane, and nitrogen oxides.

Ebinger, Charles K.
Energy security and the need for nuclear energy. Washington, American Nuclear Energy Council, 1988. 20 p.
Author contends that falling U.S. oil production and increasing reliance on imported oil forewarn of a massive, future energy crisis which can be avoided if the U.S. continues to develop all "domestic energy source of energy--coal, nuclear, oil and natural gas--pursue vigorous conservation programs and accelerate our research and development efforts in solar power, the development of modular nuclear reactors in the 150-250 MW range, in clean coal technology and in enhanced end use efficiency." Measures are suggested that would insure continuation of a viable domestic energy industry, including greater utilization of conventional nuclear power. Presented by author at 1988 Nuclear Power Assembly.

Ecological effects of a major oil spill on Panamanian coastal marine communities. Science, v. 243, Jan. 6, 1989: 37-44.
"In 1986 more than 8 million liters of crude oil spilled into a complex region of mangroves, seagrasses, and coral reefs just east of the Caribbean entrance to the Panama Canal. This was the largest recorded spill into coastal habitats in the tropical Americas. Intertidal mangroves, seagrasses, algae, and associated invertebrates were covered by oil and died soon after. More surprisingly, there was also extensive mortality of shallow subtidal reef corals and infauna of seagrass beds. After 1.5 years only some organisms in areas exposed to the open sea have recovered."

Electric power wheeling and dealing: technological considerations for increasing competition. Washington, U.S. Office of Technology Assessment, for sale by the Supt. of Docs., G.P.O., 1989. 265 p.
"OTA-E-409, May 1989"
Partial contents.--Alternative scenarios for increasing competition in the electric power industry.--Power system technology.--Regional characteristics of the electric power industry.--Siting, environmental, and health issues associated with increased competition and expanded transmission access.
Notes that certain laws might be modified to "remove discentives to bulk power competition and increased wheeling. In addition, several technical and institutional changes could help ensure that the electric power system operates reliably and economically. Many services that utilities now provide internally will have to be arranged by contract, which will require precise definition and evaluation. Detailed data collection and analysis could identify risks to be avoided as competition is implemented. State and Federal regulatory bodies may require increased expertise to handle complex issues."

Energy and environment. Energy policy, v. 17, Apr. 1989: 82-137.
Partial contents.--Energy and environment in the long term, by Anthony C. Fisher.--The greenhouse effect and intergenerational transfers, by Clive L. Spash and Ralph C. d'Arge.--Energy and environment: the challenge of integrating European policies, by S. Owens and C. W. Hope.--The decommissioning of nuclear plants: timing, cost and regulation, by Gordon MacKerron.--Deposits and repositories: electricity wastes in the UK and West Germany, by Frans Berkhout, Sonja Boehmer-Christiansen and Jim

Skea.--Policies for the mitigation of acid rain: a critique of evaluation techniques, by Hadi Dowlatabadi and Winston Harrington.--Woodfuel resource use and environmental management, by Witold Teplitz-Sembitzky and Gunter Schramm.--The fuelwood crisis and the environment: problems, policies and instruments, by P. J. G. Pearson and P. Stevens.

Energy and security. Edited by David A. Deese, Joseph S. Nye. Cambridge, Mass., Ballinger Pub. Co., c1981. 489 p.

"A report of Harvard's Energy and Security Research Project, John F. Kennedy School of Government."

Energy balances of OECD countries: 1983-1984. Paris, International Energy Agency, 1986. 162 p.

"Provides standardized energy balance sheets expressed in a common unit of tons of oil equivalent for all OECD Countries as well as the regions: OECD total, North America, Pacific, OECD Europe, EEC and IEA."

Energy economics. Englewood Cliffs, N.J., Prentice-Hall, c1987. 328 p.

Energy for a sustainable world. Washington, World Resources Institute, 1987. 119 p.

"What the EUGEP (End Use Global Energy Project) analysts have found, and actual experience has demonstrated, is that it is possible to get far more bang for the energy buck than anyone dreamed possible before 1973, and far more than conventional energy analysis still suggests today. How much more is, in essence, the subject of this study."

Energy policy. Financier, v. 7, June 1983: whole issue.

Partial contents.--U.S. concern fades as Soviet gains, by L. Kohlmeier.--Response to crisis creates confidence, by J. Berry.--Coal still best for energy independence, by H. Watkins.--Regulation chokes electric power growth, by C. Hansen.--Gas needs competitive flexibility, by A. Seder, Jr.--Nuclear option needs better reactor, by S. Freedman.

Energy security; a report to the President of the United States. Washington, U.S. Dept. of Energy, 1987. ca. 335 p. in various pagings

This report "reviews and projects the nature and scope of our energy security concerns. The domestic and international dimensions of energy security are examined, and all of the Nation's principal energy resources are evaluated. Finally, this report weighs the costs and benefits of a full range of policy options for meeting our energy security objectives."

Energy, security, and economic development in East Asia. New York, St. Martin's Press, 1986. 303 p.

Energy security white paper: U.S. decisions and global trends. Washington, American Petroleum Institute, 1988. 117 p.

Reviews recent U.S. energy history and examines the economic and foreign policy impacts of two future oil scenarios. Discusses the abundant remaining U.S. petroleum resources, their use in achieving security, and the long-range transition toward alternative energy sources. Explains the role of the exploration and production segment of the petroleum industry in the nation's energy and economic future. Describes the role of the government in addressing the components of an overall energy policy. Examines the broad issue of the environment and energy conservation.

Environmental and Energy Study Institute.

Energy policy statement: a call to action for the next President and Congress. Washington, The Institute, 1988. 10 p.

Advises the Government to implement a new energy policy to handle the problems arising from global warming, environmental pollution, international economic competitiveness, and increased dependence on foreign oil. Policy recommendations include increasing energy efficiency, encouraging use of alternative energy sources, curtailing deforestation, and promoting international reduction of greenhouse gas emissions.

Ethanol: economic and policy tradeoffs. Washington, U.S. Dept. of Agriculture, Economic Research Service, 1988. 51 p. (Agricultural economic report no. 585)

"Federally supported ethanol use is one alternative for meeting environmental, energy security, and agricultural objectives. Additional expansion of the industry depends on a continuation of current favorable conditions, including extension of the Federal gasoline tax exemption. Under current conditions, ethanol should be able to compete with other additives as an octane enhancer. Expansion of the ethanol industry would increase ethanol's contribution to improving energy security, reducing air quality problems associated with carbon monoxide, and increasing corn prices."

Evans, Daniel J.

The future of Federal energy conservation policy. Forum for applied research and public policy, v. 2, spring 1987: 77-81.

"Without a shortage to prod us, energy issues have become a low national priority. Public complacence reigns while oil imports increase. One of the many tasks now facing Congress and the American people is to set some priorities for the nation's energy policy .... Therefore, we need to renew a nationwide concern for energy conservation while we enjoy low energy prices. It would be foolish to let this opportunity slip away. It is time to restore energy and energy conservation to our national agenda."

Fate and effects of oil in the sea. New York, Exxon Corporation, 1985. 12 p. (Exxon background series)

Pamphlet gives information on where oil in the sea comes from, the chemical and physical processes acting on it, forecasting the path of an oil spill and the effects of oil and chemical dispersing agents on the "marine food web."

Federally imposed regulations: why you pay too much for natural gas. Consumers' research, v. 72, Mar. 1989: 32-35.

"The need for further regulatory reform in the natural gas industry is apparent from the record of natural gas regulatory policies during the 1970s, particularly wellhead price controls, end-use restrictions, and interstate pipeline regulation." Present a brief history of natural gas regulation since 1938, concluding that "all remaining controls on wellhead prices should be eliminated, and all remaining barriers to pipeline transportation services should be removed."

Fisher, William L.

Can the U.S. oil and gas resource base support sustained production? Science, v. 236, June 26, 1987: 1631-1636.

"Aggressive drilling for oil and gas in the lower 48 states of the United States over the past decade yielded reserve additions sufficient to arrest decline and to stabilize levels of production .... Two elements of the recent experience--maintenance of stable rates of finding and substantial levels of conventional reserve growth in older fields--indicate that the capability of the resource base to sustain production is yet considerable. The volume of domestic oil and gas production that is necessary in the national interest and the extent to which the resource base should be pursued are the central issues of public energy policy."

Flavin, Christopher.

Electricity's future. Futurist, v. 19, Apr. 1985: 36-44.

"Small-scale energy technologies and increased conservation efforts promise big changes for the electricity business." Article describes the growth of energy systems based on cogeneration, biomass, hydropower, geothermal energy, waste energy, and solar power; predicts increasing decentralization of electric power production.

Small-scale power production. Chemtech, v. 16, Oct. 1986: 606-611.

Explains how the Public Utility Regulatory Policies Act (PURPA), which requires utilities to buy power at a fair price from independent power producers, has led to rapid innovations in several technologies for producing electric power. Discusses developments in cogeneration, geothermal energy, wind power, solar power, and biomass energy.

Flavin, Christopher. Durning, Alan B.

Don't dim the lights on the energy revolution. Across the Board, v. 25, May 1988: 36-44.

Since 1973, industrial market economies have vastly improved their energy efficiency. This article looks at the progress industrial countries have made in

conserving energy in buildings, industry, and transportation and describes new technologies that could bring further improvements in energy efficiency. Warns that "countries that retreat from their energy-efficiency programs will likely regret it."

End of the profligate age? International wildlife, v. 18, May-June 1988: 12-16.

Describes increased energy efficiency of industrialized countries since 1974, but notes that "the pace of energy conservation could be vastly increased if governments were to create more incentives to invest in efficiency."

Flavin, Christopher. Hayes, Denis. Mackenzie, Jim.
The oil rollercoaster: a call to action. Washington, Fund for Renewable Energy and the Environment, 1987. 21 p.

Attacks the Reagan administration for promoting an energy policy which fails to ensure energy security, and maintains that the transition to a post-petroleum world is inevitable. Presents policy recommendations for smoothing the energy transition.

Forcier, Donald Z. Haas, Daniel M.
The energy security dilemma. GAO journal, no. 2, summer 1988: 38-46.

Discusses U.S. vulnerability to potential oil supply disruptions, important because U.S. production has been declining while imports are up, largely a consequence of lower oil prices. Trends are spelled out and energy policy approaches are suggested for enhancing U.S. energy security. Authors suggest that "energy policy should focus on the long term by fostering a variety of energy sources and continued improvements in energy efficiency."

Ford, Wendell H.
Energy policy, the environment, and Congress. Public utilities fortnightly, v. 123, Mar. 16, 1989: 14-16.

Discusses the importance of "lessening the nation's dependence on foreign oil, the successful demonstration of new technologies making coal use compatible with a clean and healthy environment, and the accomplishment of all this in an economical manner and one that is not damaging to any regional economy."

Frankena, Frederick.
Public controversies reveal major social changes. Journals of forestry, v. 87, Apr. 1989: 18-23.

Reviews critical controversies surrounding proposals to develop wood-fueled power plants in Michigan and in California. Of four proposed plants, three were defeated and one was built. Observes that "if wood-fueled electric power is to be developed, power plants will probably have to be downsized to be environmentally and politically acceptable."

Frazier, Duncan.
Edge of the Arctic. National parks, v. 61, Nov. 1987: 18-23.

"Oil companies work to undermine our last, intact arctic ecosystem."

Fri, Robert W.
New directions for oil policy: rethinking energy security. Environment, v. 29, June 1987: 16-20, 38-42.

Examines the current status of the world's oil markets and key players in them, and assesses impacts of these markets on U.S. energy security. Suggests several directions for U.S. oil policy: among them that costs of oil production be reduced; that the U.S. should continue to reduce its reliance on oil; that energy security should be an important foreign policy direction.

Fried, Edward R.
World oil markets: new benefits, old concerns. Brookings review, v. 4, summer 1986: 32-38.

Concludes that "the sharp drop in oil prices is a positive but not a risk-free economic development. While the assessment of risk is subject to a great deal of uncertainty, the damage, should the worst materialize, could be severe. Action to increase emergency oil stocks and strengthen the international machinery for cooperating in oil emergencies looks like the most promising course to take."

Fuel ethanol cost-effectiveness study: final report. Washington, National Advisory Panel on Cost-Effectiveness of Fuel Ethanol Production, 1987. ca. 156 p. in various pagings.

Presents findings of a seven-member panel appointed by the Secretary of Agriculture charged with making an assessment of the cost effectiveness of fuel ethanol to U.S. society, government policy, and the economy.

Fumento, Michael.

Some dare call them robber barons. National review, v. 39, Mar. 13, 1987: 32-33, 36-38.

Claims that gasohol and high-fructose corn syrup would be almost nonexistent in the U.S., if it were not for massive government subsidies. Describes the political influence of Dwayne Andreas, president of Archer-Daniels-Midland, the nation's largest agricultural processing concern.

The Future for European energy security. New York, St. Martin's Press, 1985. 177 p.

Gall, Norman.

We are living off our capital. Forbes, v. 138, Sept. 22, 1986: 62, 64-66.

"OPEC's attempt to hold the world's oil users to ransom failed, but the next oil crunch will be rougher and probably irreversible." In an interview Joseph P. Riva "explains why the world may have less recoverable oil than it formerly thought."

Gall, Norman. Mayorga Alba, Eleodoro.

Brazil and Peru: social and economic effects of petroleum development. Geneva, International Labour Office, 1987. 123 p.

"Peru, a modest oil producer for over a century, has in recent years been struggling to maintain the net export position which provides much of its foreign exchange. Most of its output comes from Amazonian jungle areas. Brazil, historically poor in oil, has been rapidly approaching self-sufficiency through technologically challenging offshore production . . . . The rather different experiences of these two South American oil producers are reviewed in the broad context of the petroleum sector's contribution to national development."

Gallis, Paul.

The NATO allies, Japan and the Persian Gulf. Congressional Research Service review, v. 6, Feb. 1985: 5-6.

"Most of the United States' NATO allies heavily depend upon the Persian Gulf for petroleum supplies. A number have also developed extensive trade contacts with Iran or Iraq, as well as with other states in the region. In addition, Japan imports a significant amount of its petroleum from the Gulf. A disruption of the flow of oil from the Persian Gulf could pose a serious economic and strategic threat to members of the alliance and to Japan. The United States and its allies, however, differ in important ways over how to respond to such a threat."

Garrell, Martin H. Kaplan, Edward. Royce, Barbara.

Tertiary recovery: future energy with minimum environmental impact. Environmental professional, v. 10, Oct.-Dec. 1988: 341-356.

"This report is an attempt to quantify the important environmental impacts of tertiary or enhanced oil recovery (EOR), a technology that could add substantially to domestic energy supplies in the next century. The problems associated with each EOR technology are described, and controls and regulations are discussed as well . . . . Despite environmental risks associated with EOR technologies and with specific projects in the scenario, most problems are solvable through proper planning, responsible regulation, proper enforcement, and practical engineering."

Gately, Dermot.

Lessons from the 1986 oil price collapse. Brookings papers on economic activity, no. 2, 1986: 237-284.

"The 1986 price collapse was the result of a decision by Saudi Arabia and some of its neighbors to increase their share of the oil market. Unlike other producers, they did not suffer great revenue losses, because the price declines were offset by their output increase . . . . Over the next two decades, price can be expected to increase substantially, although OPEC will continue to have difficulty restricting output if it raises price too far above what is warranted by market conditions. The world's oil resources are still heavily concentrated in the Persian Gulf, and there is no alternative energy source now on the horizon that is cheap, clean, and plentiful."

Gavett, Earle E. Grinnell, Gerald E.
Fuel ethanol and agriculture: an economic assessment. Washington, U.S. Dept. of Agriculture, Office of Energy, for sale by the Supt. of Docs., G.P.O., 1986. 54 p. (Agricultural economic report no. 562)
"This report examines the economics of ethanol production through 1995 and the impacts on farmers, consumers, and Government outlays for ethanol subsidies and agricultural price support programs."

Getting warmer--should we worry? Journal of policy analysis and management, v. 7, spring 1988: 425-475.
Partial contents.--Scientific basis for the greenhouse effect, by Gordon J. MacDonald.--Living in a warmer world: challenges for policy analysis and management, by Irving Mintzer.--The greenhouse effect: what government actions are needed?, by Lester B. Lave.--Policy analysis, welfare economics, and the greenhouse effect, by Peter G. Brown.

Gibbons, John H.
Energy, the conservation revolution. New York, Plenum Press, c1981. 258 p.

Goerold, W. Thomas.
Environmental and petroleum resource conflicts: a simulation model to determine the benefits of petroleum production in the Arctic National Wildlife Refuge, Alaska. Materials and society, v. 11, no. 3, 1987: 279-307.
"The Arctic National Wildlife Refuge Financial Analysis Simulation Model (AFAM) projects the expected present value of net economic benefits of oil production at between $0.32 and $1.39 billion . . . . Decision makers considering whether or not to open ANWR to petroleum development can use these values to judge if the economic benefits outweigh the projected negative wilderness and wildlife impacts."

Gold, Tom.
Oil from the centre of the Earth. New scientist, v. 110, June 26, 1986: 42, 44-46.
"Everyone knows that petroleum and other hydrocarbons result from ancient plant and animal debris. Next week sees the start of a drilling project in Sweden that might just prove everyone wrong."

Gonzalez, Rodolfo Alejo. Folsom, Roger Nils.
Responding to the oil shock: the U.S. economy since 1973. Freeman ideas on liberty, v. 39, Feb. 1989: 62-65.
Claims that the economic problems which developed in the late 1970s (slow economic growth, high inflation and unemployment, and large budget and trade deficits) owed to a belief that the oil shortages and resulting productivity declines were temporary. Concludes that the economy has improved since 1982 and that additional benefits will accompany lower oil prices and lower marginal tax rates.

Gordon, Richard L.
An economic analysis of world energy problems. Cambridge, Mass., MIT Press, c1981. 282 p.

Gray, C. Boyden.
Octane, ozone, and obstinacy. Regulation, v. 11, no. 2, 1987: 37-43.
Describes the use of alcohols (or oxygenates) as automotive fuels to illustrate how the Federal regulatory bureaucracy can impede technological innovations. These fuels--methanol, ethanol (gasohol), and tertiary butyl alcohol--can be blended with gasoline to enhance octane and reduce tailpipe emissions, including those leading to ozone formation and carbon monoxide. However, Environmental Protection Agency regulations restrict their use.

Greely, John.
The spills and spoils of big oil. Nation, v. 248, May 29, 1989: 721, 738-740.
Describes how the oil industry has influenced Alaskan State politicians and become a major source of State government funds.

Greenhouse effect. Forum for applied research and public policy, v. 3, fall 1988: 47-72.
Contents.--The greenhouse effect: impacts and policies, by Richard A. Warwick and Phillip D. Jones.--How would closing nuclear plants affect climate? by Henning Rodhe and Anders Bjorkstrom.--Protecting the ozone, by Robert T. Stafford.--Du Pont's position on CFCs, by Joseph P. Glas.

Gregg, D. W., and others.
Solar coal gasification. Solar energy, v. 24, no. 3, 1980: 313-321.
Conclude that "the gasification of coal with focused solar energy appears both economically and technically feasible. Compared with the Lurgi coal gasification process, such a gasification system requires considerably less coal for the same amount of product gas. The product gas will be less expensive, and the increase in capital cost for the plant will be minimal (approximately 13 per cent). A number of reactor-design options appear technically feasible and could capitalize on existing technology."

Solar gasification of coal, activated carbon, coke and coal and biomass mixtures. Solar energy, v. 25, no. 4, 1980: 353-364.
"Subbituminous coal, activated carbon, coke and a mixture of coal and biomass were gasified using direct solar irradiation in a 23-kW solar furnace located at the U.S. Army White Sands Missile Range, White Sands, New Mexico . . . . Solar gasification offers several advantages over conventional oxygen-blown gasifiers: (1) commercial grade oxygen is not required, (2) almost twice as much gas per ton of coal can be achieved because no coal is burned to provide process heat and because the gas contains energy from both coal and the sun, and (3) the system has very low thermal inertia and is insensitive to thermal shock, making it very adaptable to rapidly changing solar conditions such as passing clouds."

Gustafson, Thane.
The origins of the Soviet oil crisis, 1970-1985. Soviet economy, v. 1, Apr.-June 1985: 103-145.
"The root of the problem is two decades of unbalanced policy favoring near-term payoff over long-term preparation. Exploration has been systematically neglected in favor of development." Includes comments by Maurice Ernst and Robert Campbell.

Hager, George.
Spill may halt drilling bill, help liability efforts. Congressional Quarterly weekly report, v. 47, Apr. 8, 1989: 742-744.
Examines Congressional response to the spill from the oil tanker Exxon Valdez. Topics include drilling in the Arctic National Wildlife Refuge, oil-spill liability legislation, offshore leasing, Federalizing future oil-spill cleanups, the Coast Guard budget, and ship pilot licensing procedures.

Haggin, Joseph.
Drilling project in Sweden will test theory of abiogenic hydrocarbons. Chemical & engineering news, v. 64, July 21, 1986: 21-26.
"Unusual theory holds that hydrocarbons were trapped inside Earth as it formed and have seeped through the crust over geologic time."

Health risks of toxic emissions from a coal-fired power plant. Santa Monica, Calif., Rand Corp., 1987. 104 p.
"R-3507-EPRI"
This report concludes from a computer analysis of selenium and beryllium discharges of the Montour Steam Electric Station in Pennsylvania, that the incremental exposure is "essentially negligible in virtually all cases" and that "the number of cancer cases (in the exposed population) that might result from plant discharges is extremely small."

Henderson, Lenneal J., Jr.
Energy policy and socioeconomic growth in low-income communities. Review of Black political economy, v. 17, fall 1988: 11-27.
"This paper urges the development and continuous monitoring of energy supply and prices in poor and non-white communities. A related concern is the impact of federal, state, and local energy and energy-related policies on these communities."

Hesse, Martha O.
A new era in energy regulation. Public utilities fortnightly, v. 123, Mar. 16, 1989: 18-21.
The chairman of the Federal Energy Regulatory Commission here describes recent policy changes in that agency and the rationale behind the changes. "This new

approach to regulation is based on the fundamental premise that competition, wherever can work, can allocate resources more efficiently and keep prices lower for consumers than can traditional regulation." Discusses the natural gas and electric utility industries.

Higgs, Robert.
Hard coals make bad law: congressional parochialism versus national defense. Cato journal, v. 8, spring-summer 1988: 79-106.
Examines the role of the Pennsylvania congressional delegation in the Defense Department's continuing purchase of Pennsylvania anthracite coal for heating Army installations in western Europe. The author charges that this program, "so utterly inexcusable from the standpoint of genuine concern for national security, shows how and why in other, often more costly ways the members of Congress treat the defense program as a means to serve their own selfish, parochial, and wasteful ends."

Higher oil prices and the world economy: the adjustment problem. Edited by Edward R. Fried, and Charles L. Schultze. Washington, Brookings Institution, c1975. 284 p.
"Papers . . . discussed at a conference held at Brookings in November 1974."

Hills, Peter. Bowie, Paddy.
China and Malaysia: social and economic effects of petroleum development. Geneva, International Labour Office, 1987. 148 p.
Contents.--The development of the petroleum industry in the People's Republic of China, by Peter Hills.--Oil, gas and development in Malaysia, by Paddy Bowie.

Hirsch, Robert L.
Impending United States energy crisis. Science, v. 235, Mar. 20, 1987: 1467-1473.
Identifies the following reasons for a coming energy crisis in the U.S.: "(i) recent developments in the world oil markets, (ii) the resultant crippling of the U.S. petroleum industry, (iii) the continued existence of the Organization of Petroleum Exporting Countries (OPEC) cartel, (iv) instability in the Middle East, (v) the inherently long times necessary to change the U.S. and world energy systems, and (vi) the short-term orientation of the U.S. public, government, and industry."

Hirst, Eric.
Reaching for 100% participation in a utility conservation programme. Energy policy, v. 17, Apr. 1989: 155-164.
"The Hood River Conservation Project (HRCP) was a major residential retrofit demonstration project. The project was intended to install as many cost-effective retrofit measures in all electrically heated homes in Hood River, OR, USA. To achieve 100% participation, HRCP offered a package of 'super' retrofit measures and paid for installation of these measures. Almost all (91%) of the eligible households participated, in stark contrast to the much lower participation levels achieved in other residential conservation programmes. The key factors leading to this phenomenal success include: the offer of free retrofits; determination on the part of staff to enlist every eligible household; the use of community-based marketing approaches; and reliance on extensive word-of-mouth among Hood River residents."

Hogan, William W. Mossavar-Rahmani, Bijan.
Energy security revisited. Cambridge, Mass., Energy and Environmental Policy Center, Harvard University, 1987. 99 p. (Harvard international energy studies no. 2)
Suggests that an oil tariff of as much as $10 a barrel is in the national interest but is politically unrealistic. Recommends that "a tariff of $5 a barrel would be almost as advantageous, and seems politically within reach, particularly when seen as part of an energy security package that will finance significant additions to strategic reserves and permit stockpiling of refined products crucial to the economic well-being of regions until now skeptical about an oil tariff. Tariff exemptions for purchase of imported oil for the SPR provides latitude to offer additional markets to particular outside suppliers, notably those in the Eastern Hemisphere. And renewed attention to emergency responses will improve the nation's ability to use the market to best advantage during a supply disruption." Includes a review and analysis of four previous studies on energy security.

Holdren, John P.
Energy hazards: what to measure, what to compare. Technology review, v. 85, Apr. 1982: 33-38, 74-75.
"Comparing energy hazards is like comparing apples and oranges. Analysts must account for qualitative differences in environmental effects, numerical uncertainties, and a range of social goals."

Horton, Robert B.
Oil and the world today: who will pay for tomorrow's oil? Vital speeches of the day, v. 52, Aug. 1, 1986: 616-619.
Discussing current cheaper oil, the CEO of Standard Oil remarks: "'sooner or later we'll pay OPEC.' But maybe we can pay them less, and later, by paying ourselves and our closer neighbors a little more attention now." Favors tax incentives for the U.S. oil industry.

Horwich, George.
Oil price shocks, market response, and contingency planning, by George Horwich and David Leo Weimer. Washington, American Enterprise Institute for Public Policy Research, c1984. 220 p. (AEI studies; 405) (American Enterprise Institute studies in energy policy)

Houghton, Richard A. Woodwell, George M.
Global climatic change. Scientific American, v. 260, Apr. 1989: 36-44.
States that "there is an unusually powerful consensus among climatologists that the dominant influence on global climate over the next centuries will be a warming driven by the accumulation of heat-trapping gases. The consequences are threatening enough so that many scientists, citizens and even political leaders are urging immediate action to halt the warming."

Houthakker, Hendrik S.
The world price of oil: a medium-term analysis. Washington, American Enterprise Institute for Public Policy Research, 1976. 37 p. (National energy study; 13)

Hutchinson, Robert J.
Transforming the sea wind. Oceans, v. 20, Sept.-Oct. 1987: 12, 14-19.
Discusses initiatives taken by Hawaii and California to develop wind energy, and presents arguments of critics and supporters of this alternative energy source.

Improving U.S. energy security. Edited by Richard J. Gonzalez, Raymond W. Smilor, Joel Darmstadter. Cambridge, Mass., Ballinger Pub. Co., 1985. 308 p.
Papers presented at a 1984 conference in Washington, D.C., organized by the IC Institute of the University of Texas at Austin, Resources for the Future, and the RGK Foundation.

Iten, Oswald.
Brazil: alcohol at the wheel. Swiss review of world affairs, v. 38, July 1988: 13-18.
"As a result of the first oil crisis in 1973, Brazil became the only nation in the world to carry out a large-scale program aimed at replacing the fossil fuel with a renewable energy source: ethanol instead of gasoline. Today, after 12 years of the state-supported program known as Proalcool, the results are impressive: more than half the fuel consumed by private automobiles in this country is alcohol distilled from sugar cane, and 90% of newly registered automobiles are equipped with alcohol-burning engines."

Jones, Walter H. Yarosh, Marvin M.
Structuring a small national or state solar energy program. Solar energy, v. 22, no. 1, 1979: 1-7.
Describes "the process whereby a solar energy program was established and given direction in the State of Florida of the United States. The methodology developed should be applicable to other states and to small countries with limited resources."

Kakela, Peter. Chilson, Gary. Patric, William.
Low-head hydropower for local use. Environment, v. 27, Jan.-Feb. 1985: 31-38.
Presents a brief history of the electrical age, describing why utilities shifted to thermal power and observing that "low-head hydropower represents a unique, valuable

resource for many local communities. From the perspective of the United States or even from that of the individual states, legitimate institutional factors and invariable physical limitations make low-head hydropower a doubtful option for meeting future energy needs."

Kakinuma, S.
Time for change: energy industry in transition. Tokyo business today, Aug. 1987: 24-31.
"The yen's appreciation and reduced oil prices should have brought only benefits to Japan's energy industry, but what has actually happened is that problems in government energy policy have been exposed. At the same time, restructuring within the Japanese oil industry is accelerating."

Kane, Sally M. Reilly, John M.
Economics of ethanol production in the United States. Washington, U.S. Dept. of Agriculture, Economic Research Service, 1989. 20 p. (Agricultural economic report no. 607)
"Expansion of the U.S. ethanol industry hinges largely on extension of the Federal fuel excise tax exemption and corn prices. For ethanol to be competitive in the 1990's without the Federal subsidy, crude oil prices would have to increase substantially. This report examines production costs and the relative competitiveness of the ethanol industry."

Kenndy, Laura.
Finding the best energy balance. American Gas Association monthly, v. 70, Mar. 1988: 20-24.
Industrial and government leaders are asked what U.S. energy policy should be. Responses emphasize the roles of various energy sources, especially natural gas, and foreign oil. Interviewees include D. J. Heim, chairman and CEO of Washington Gas and Light Co.; S. L. Campbell, director of the Office of Policy, Planning and Analysis for D.O.E.; Sen. J. B. Johnston, chairman of Senate Energy and Natural Resources Committee; Rep. P. R. Sharp; and M. T. Halbouty, chairman of National Energy Foundation, and CEO of Michel T. Halbouty Energy Co.

Kenney, John.
Grave waters. National parks, v. 63, July-Aug. 1989: 18-23, 42.
Describes the effects of the oil spill from the Exxon Valdez on Alaska's national parks. "Countless seabirds, sea otters, and young fish have perished from direct contact with the oil, and hundreds of miles of coastline have been blackened . . . . The spill will have an impact on the entire western gulf ecosystem, integrated as it is by migrating animals, marine tides and currents, and interconnected food chains."

Khazzoom, J. Daniel.
Gasoline conservation versus pollution control: unintended consequences, continued. Journal of policy analysis and management, v. 7, fall 1988: 710-714.
"Theory and evidence suggest that achieving more miles per gallon (MPG) has not reduced key pollutants. Instead, it has increased them." Suggests empirical research on this subject and proposes two policy options. "First, recast the EPA standards from grams per mile traveled to grams per gallon of fuel burned to eliminate the conflict between energy conservation and pollution control. Second, place a greater emphasis on price-driven fuel conservation measures, especially if EPA does not switch to grams per gallon."

Kizzia, Tom.
Culture at the crossroads. Defenders, v. 62, Sept.-Oct. 1987: 28-33.
"For tiny Kaktovik, the conflict between drilling and preservation is threatening cherished ties with the past."

Kjellstrom, Bjorn.
Biomass gasifiers for energy supply to agriculture and small industry. Ambio, v. 14, no. 4-5, 1985: 267-274.
"Manufacturing and operating costs of biomass gasifiers can be competitive in situations where a country can not afford to import petroleum fuels. Unfortunately, most developing countries have not alloted sufficient resources to the development of appropriate technology. Increased committment from governments and financial and technical assistance from development organizations and banks is necessary."

Klass, Donald L.
Energy from biomass and wastes: a review and 1983 update. Resources and conservation, v. 11, Mar. 1985: 157-239.
Reports that efforts to develop and apply technology to produce energy from biomass and waste grew in 1983 despite continued reduction in Federal support. Reviews worldwide development in biomass production, combustion of municipal wastes, methane production by anaerobic digestion, synthetic fuels, and alcohols from biomass.

Klein, S. A. Beckman, W. A. Duffie, J. A.
A design procedure for solar heating systems. Solar energy, v. 18, no. 2, 1976: 113-127.
"This paper is concerned with the design of solar space and water heating systems for residences. A simulation model capable of estimating the long- term thermal performance of solar heating systems is described. The amount of meteorological data required by the simulation in order to estimate long-term performance is investigated. The information gained from many simulations is used to develop a general design procedure for solar heating systems."

Landsberg, Hans H.
Coal revisited. Resources, no. 94, winter 1989: 8-11.
Noting both advantages (an abundant resource base, widely distributed reserves, low cost per unit of heat, familiar technology, infrastructure in place) and disadvantages (discharges that contribute to acid rain and greenhouse problems), assesses the current and prospective competitive position of coal. Among observations: utilities are unlikely to switch to oil, but nonutility coal use cannot be expected to grow.

Laycock, George.
Wilderness by the barrel. Audubon magazine, v. 90, May 1988: 102-106, 108, 111-112, 114-123.
Discusses why the coastal plain of the Alaska National Wildlife Refuge should not be opened to petroleum development.

Lewarne, Stephen.
Soviet oil: the move offshore. Boulder, Colo., Westview Press, 1988. 190 p. (Westview special studies on the Soviet Union and Eastern Europe)
Contents.--The importance of Soviet petroleum and the role of offshore oil: an introduction.--Problems in the Soviet petroleum industry: background to the move offshore.--The geology of Soviet offshore petroleum: an overview of offshore potential.--Soviet offshore petroleum exploration and development.--The move offshore: an assessment.

Lichtblau, John H.
An empty pump down the road? GAO journal, no. 2, summer 1988: 47-51.
Discusses increasing U.S. dependence on oil imports, and proposes diversification of foreign suppliers and adoption of policies to stimulate U.S. petroleum production.

Lizardo de Araujo, Joao. Chirardi, Andre.
Substitution of petroleum products in Brazil. Energy policy, v. 15, Feb. 1987: 22-39.
Brazil's efforts to curb import demand for petroleum by fostering conservation and full substitution have resulted in surpluses of gasoline and fuel oil. "The pace of oil substitution must be revised and policies reassessed. The areas deserving the highest priority are the cost and productivity of ethanol (alcohol fuel) production, electricity tariffs, motor fuel policy, and the role of fuel oil in industrial energy demand."

The avoidable oil crisis: a simple strategy will reduce shortages and keep costs down. Atlantic monthly, v. 20, Dec. 1987: 22, 26-30.
The United States has largely depleted its cheapest oil, foreign oil costs less to find and extract and the cost gap is expected to widen. "Only three responses to this trend seem to be available at present: protectionism, trade, and substitution." The authors recommend the third response.

Lovins, Amory B. Lovins, L. Hunter.
Oil-risk insurance: choosing the best buy. GAO journal, no. 2, summer 1988: 52-60.
Argues that "over an extremely wide range, how much oil we need is not fate but choice." Suggests the U.S. focus on energy efficiency, particularly for oil.

Lowe, John S.

Gas contracting: the lessons of the seventies. Natural resources and environment, Jan. 1989: 3-6, 46-48.

"How did the United States move so quickly from an economy that seemed unable to get enough natural gas to one with such a large surplus? The answer appears to lie in a combination of economic and regulatory effects that have interacted somewhat differently upon different segments of the economy." Discusses impacts of conservation, structural change and fuel switching, rising gas prices, and actions by FERC and Congress.

Machado, Sheila. Piltz, Rick.

Reducing the rate of global warming: the States' role. Washington, Renew America, 1988. 33 p.

Reports on State policies and programs designed to reduce the rate of atmospheric warming.

Mackenzie, James J.

Planning beyond oil. Forum for applied research and public policy, v. 2, fall 1987: 6-18.

"The current global oil glut is destined to be short lived. Planning for the post-surplus era, however, presents difficult choices. During the next few years, OPEC will regain control over world oil markets, eroding the West's economic and political independence . . . . Looking beyond the era of the fossil fuels . . . there are only two other possible sources: nuclear power and renewable solar technologies."

Marier, Donald.

From permits to power: hydro development begins to deliver its promise. Alternative sources of energy, Jan.-Feb. 1985: 8-10, 12-14, 16-18, 20-21.

Describes activity in the hydropower development industry following the past few years' rush of hydro permit applications. Gives examples of some projects now operating and predicts a continued increase in the number of projects coming on line and a "bright future for one of our most vital renewable industries."

Windfarm update: double and double again. Alternative sources of energy, no. 72, Mar.-Apr. 1985: 12-16, 18-19.

"The wind industry more than doubled the number of turbines as well as the installed capacity of all wind projects in 1984. All indications are that the numbers could double again in 1985, which at this writing, is still the sunset year for the renewable energy investment tax credits which have contributed so directly to this phenomenal growth."

Marier, Donald. Stoiaken, Larry N.

An industry in transition: the hydropower industry looks ahead. Alternative sources of energy, no. 92, July-Aug. 1987: 8-13.

An overwhelming majority of executives in the industry expect a downturn in new project activity over the next five years.

The private advantage. Alternative sources of energy, Mar. 1988: 8-11.

"Do private companies have an advantage over public ones? In 1985-86, with new public offerings at a peak, it did not seem so. But public equity for independent power projects was already beginning to run short when the October 1987 crash hit. New sources of capital are filling the void and private companies appear to have gained an edge."

Marshall, Eliot.

Valdez: the predicted oil spill. Science, v. 244, Apr. 7, 1989: 20-21.

Describes early efforts by Exxon to control the spill in Prince William Sound caused when the tanker Exxon Valdez collided with a reef. A 1972 Environmental Impact Statement identified as its main risk the breakup of a tanker leaving Valdez.

Matthews, Downs.
Producing oil on public lands. Lamp, v. 70, spring 1988: 6-11.
"The Federal government owns the nation's Outer Continental Shelf, plus about one-third of the total land area of the U.S., estimated to contain more than half of the nation's undiscovered energy resources." This article describes how Exxon and other companies produce oil and gas from public lands while protecting cultural and aesthetic resources.

Mawn, Paul E.
Fueling the maritime strategy. United States Naval Institute proceedings, v. 114, Sept. 1988: 99-102.
Lays out policy measures that would help assure that the U.S. Navy will have an adequate petroleum logistics chain under both peacetime and wartime consumption conditions.

Maxwell, Charles T.
Crude prospects: Charlie Maxwell on the outlook for oil. Barron's, v. 68, May 9, 1988: 13, 15, 20, 22-23, 26-28.
In this interview, energy strategist Charles Maxwell analyzes recent events among Middle Eastern oil producers and other global petroleum industry players. Predicts a long stretch of fairly stable oil prices.

McGowan, J. G.
Ocean thermal energy conversion--a significant solar resource. Solar energy, v. 18, no. 2, 1976: 81-92.
Presents "the general concepts for Ocean Thermal Energy Conversion, a large-scale solar energy driven system, and summarizes the most recent systems design work on the subject. The systems and components of various investigators are compared, and the environmental and economic aspects of such power systems are discussed."

McLeod, Christopher. Hayes, Randy. Switkes, Glenn.
The four corners: a national sacrifice area? Not man apart, v. 15, July-Aug. 1985, suppl.: whole issue (24 p.)
The film "The Four Corners: A National Sacrifice Area?" documents the ecological and cultural costs of energy development on the Colorado Plateau. This resource guide was compiled as a working companion to the film. "From it you can learn more about the human and environmental costs of the boom-and-bust economy that derives from the insatiable search for energy and the wasteful use of it."

Miller, Alan S. Mintzer, Irving M. Hoagland, Sara H.
Growing power: bioenergy for development and industry. [Washington] World Resources Institute, 1986. 100 p.
The authors "take up the questions of bioenergy's technical potential and social and economic acceptance in a wide variety of settings . . . . From this analysis emerge concrete recommendations for hastening and improving bioenergy development in both industrial and developing countries. Underlying all are energy-development strategies that incorporate multiple economic and social objectives and that give energy users the services they need on terms that they can easily live with."

Miller, John R.
Petroleum economics and management. Journal of energy and development, v. 10, spring 1985: 165-172.
The President of Standard Oil concludes that the energy glut is a mirage; complacency will hurt the U.S.; continuity in national policies is essential; what happens to the U.S. is important to the world; new technology will tilt the forecasts but "the forecasts are wrong so often that the only thing one can always count on in the petroleum world is the sovereign fact of change."

Mintzer, Irving.
Weathering the storms in a warming world. Public power, v. 46, Nov.-Dec. 1988: 15-16, 18, 20-21.
"If national governments (and electric utilities) choose energy supply strategies that increase the use of coal, ignore opportunities to improve energy efficiency, and reduce sulfate emissions while increasing other pollutant releases, we will accelerate the onset of global warming due to the greenhouse effect." Emphasizes the need to pursue energy efficiency, limit tropical deforestation, eliminate the most dangerous CFC's, and increase use of natural gas and renewable energy sources.

Mohnen, Volker A.

The challenge of acid rain. Scientific American, v. 259, Aug. 1988: 30-38.

Describes the atmospheric chemistry that generates sulfuric and nitric acids from the sulfur dioxide and oxides of nitrogen given off chiefly by coal-burning power plants and automobiles. The effects of acid rain on streams, lakes, and forests are analyzed. Methods to control acid rain by reducing plant emissions include use of low-sulfur coal, flue-gas desulfurization and clean-coal technologies (atmospheric fluidized bed combustion, pressurized fluidized-bed combustion and gasification/combined-cycle).

Moore, Robert M.

Cost predictions for photovoltaic energy sources. Solar energy, v. 18, no. 3, 1976: 225-234.

"A preliminary assessment of the solar cell cost prediction art has been made, both in terms of a review and analysis of the the prior literature and through an extension of these prior studies. The primary purpose of this study is to establish a basis for judging the relative credibility of the existing cost estimates."

Moretti, Peter M. Divone, Louis V.

Modern windmills. Scientific American, v. 254, June 1986: 110, 112-116, 118.

"The chief function of modern mills is to generate electricity, thereby conserving fuel for conventional power plants."

Morris, Robert E. Grutsch, Ralph J.

The upcoming boom in cogeneration. Public utilities fortnightly, v. 115, May 30, 1985: 17-19.

Examines "the potential of cogeneration as a growth industry, and the benefits it can provide to electricity users, electric utilities, investors, and the economy as a whole."

Morse, M. F. Small, J. L.

The effect of wood and coal stoves on household use of electricity. Land economics, v. 65, Feb. 1989: 29-37.

"The reduction in electric energy consumption due to the use of a stove was estimated to be between a quarter and a third of the kilowatt-hour use of a typical electric heating system when no stove is present, a result which appears to disagree with a recent U.S. Energy Information Agency report estimating electricity savings due to wood stoves. This study found a positive relationship between the price of electricity and the probability of stove ownership."

Moseley, Fred.

Gasoline and groundwater contamination; background paper. [Washington] Northeast-Midwest Institute, 1985. 8 p.

"Prepared for Northeast-Midwest Congressional Coalition."

"At any given time, an estimated 9.5 billion gallons of gasoline is stored at well-heads and refineries and another 4.8 billion at distribution centers and local service stations. This discussion focuses upon the problem of leakage from tanks at these outlets." Paper describes gasoline leakage, toxic dangers of gasolines costs associated with tank leaks, and efforts to address the problem.

Moskovitz, David H.

Cutting the nation's electric bill. Issues in science and technology, v. 5, spring 1989: 88-93.

Observes that "utilities are controlled by regulatory systems that strongly, if unintentionally, encourage the production and sale of as much electricity as possible." Argues that new regulatory systems are needed to align the utility industry's financial interests with society's environmental and energy efficiency goals. Describes Maine's system of periodically adjusting a utility's allowed rate of return based on its success in controlling customers' average monthly electric bills.

Muschett, F. Douglas.

The greenhouse effect: challenge & opportunity. Independent power, Mar. 1989: 18-20, 22-23.

"The magnitude of the 'greenhouse effect' may be uncertain at this time, but it is definitely becoming a factor in international environmental and energy policy discussions. The debate gives the alternative energy and cogeneration industry an opportunity to present its case."

Nadler, Arnold.
Forecasting oil prices into the 1990s. Public power, v. 47, Jan.-Feb. 1989: 16-21.
"The purpose of this article is to help you anticipate, and thus be able to plan for, future oil price shifts. To do that we'll look at the basis of international supply and demand, the realistic impact of OPEC on world markets, and some indicators you can use to do your own forecasting."

National Academy of Sciences, Washington, D.C.
Coal mining and ground-water resources in the United States. Washington, National Academy Press, 1981. 197 p.
Partial contents.--The ground-water resource in the United States.--The generic effects of coal mining on ground water.--Specific effects and impacts of coal mining on ground-water resources.--Controlling the adverse effects and impacts of coal mining on ground water.--Future needs and ability of the hydrogeologic community to respond.

New electric power technologies: problems and prospects for the 1990s. Washington, Office of Technology Assessment, for sale by the Supt. of Docs., G.P.O., 1985. 329 p.
"OTA-E-246"
"The new technologies considered in OTA's analysis include atmospheric fluidized bed combustion (AFBC), integrated coal gasification/combined- cycle (IGCC), fuel cells, geothermal, wind, photovoltacis, solar-thermal, compressed air energy storage (CAES), battery storage, and load management. These technologies are new or have not traditionally been used extensively by utilities or other power producers. According to OTA, many can be constructed in modular units that permit capacity additions to be made in small increments, with less concentration of financial assets and shorter lead-times between commitment and coming 'on-line.'"

New frontiers for energy independence. State factor, v. 13, July 1987: whole issue (19 p.)
"Two issues in particular facing the petroleum industry, the leasing and development of the Arctic National Wildlife Refuge (ANWR) coastal plain and the potential classification by the U.S. Environmental Protection Agency of production and exploration wastes as hazardous, represent complex challenges that will affect the competitiveness and viability of the industry."

Newman, Peter W. G. Kenworthy, Jeffrey R.
Gasoline consumption and cities: a comparison of U.S. cities with a global survey. Journal of the American Planning Association, v. 55, winter 1989: 24-37.
Average gasoline consumption in U.S. cities was nearly twice as high as in Australian cities, four times higher than in European cities and ten times higher than in Asian cities. Allowing for variations in gasoline price, income, and vehicle efficiency explains only half of these differences. We suggest physical planning policies, particularly reurbanization and a reorientation of transportation priorities as a means of reducing gasoline consumption and automobile dependence."

Newport, John Paul, Jr.
Get ready for the coming oil crisis. Fortune, v. 115, Mar. 16, 1987: 46-53, 56-57.
"The warm narcotic of cut-rate crude is blinding the nation to the serious problem of steadily rising foreign imports." Looks at the likely future output of OPEC countries and trends in the U.S. petroleum industry, and suggests elements of a more sensible U.S. energy policy. These include opening up more Federal lands for exploration, building up the SPR, encouraging conservation, and changing certain taxes.

Nivola, Pietro S.
The politics of energy conservation. Washington, Brookings Institution, c1986. 294 p.

Nulty, Peter.
The future of big oil. Fortune, v. 119, May 8, 1989: 46-51, 54.
"If the Valdez oil spill becomes a seminal event in our time, it will more likely be for the political and economic havoc it may cause than for its impact on the environment. Because of Valdez, Congress has already postponed action on a bill to permit exploration in the most enticing oil acreage in North America, the Arctic National Wildlife Refuge. Never mind that those with the most reason to feel aggrieved--most of the Alaskans interviewed for this story, whose state depends on oil for 85% of its revenues--overwhelmingly support drilling in ANWR if it is done with care." Also includes a follow-up story, "In ten years you'll see nothing," presenting Exxon CEO Lawrence Rawl's views on the Valdez spills impact.

Oil and America's security. Edited by Edward R. Fried, Nanette M. Blandin. Washington, Brookings Institution, c1988. 124 p. (Brookings dialogues on public policy)

"Report of a conference held in Washington, D.C., on October 15, 1987, sponsored by the American Enterprise Institute for Public Policy Research, the Brookings Institution, the Lyndon Baines Johnson Library, and the Lyndon B. Johnson School of Public Affairs at Austin."

The Oil & gas producing industry in your State, 1986-1987. Petroleum independent, Sept. 1986: whole issue (112 p.)

Provides statistics on production of crude oil and natural gas by State. Includes value of oil and gas by State, petroleum reserves, land area under lease, number of wells and drilling costs.

Oil production in the Arctic National Wildlife Refuge: the technology & the Alaskan oil context. Washington, U.S. Office of Technology Assessment, for sale by the Supt. of Docs., G.P.O., 1989. 123 p.

"OTA-E-394, Feb. 1989"

Focuses on "the oilfield technology being used to develop the Alaskan North Slope's oil resources and the likely configuration of that technology as it might be applied in the future to the coastal plain; and the prospects for future North Slope oil production, especially the likelihood that the flow of oil through the Trans Alaskan Pipeline System will suffer a serious decline during the next decade."

Osborne, David.

The origin of petroleum. Atlantic monthly, v. 257, Feb. 1986: 39-45, 48-54.

The Swedes are drilling very deep wells in the Siljan Ring area to test Thomas Gold's theory that hydrocarbons leak upward from materials buried within the Earth during its foundation. His theory of nonbiological oil is still highly controversial.

Pain, Stephanie.

Alaska lays its wildlife on the line. New scientist, v. 114, Apr. 30, 1987: 51-55.

Ten years after oil began to flow through the Trans-Alaska Pipeline, evaluates the ecological impact of the project. Biologist David Klein thinks that on the whole, damage has been minimal, although the pipeline has proved "behaviorly detrimental" to caribou. Also discusses current controversy over the Arctic National Wildlife Refuge.

Patterson, Walt.

Coal comes back as a gas. New scientist, v. 122, Apr. 29, 1989: 50-53.

Reports on technologies for coal gasification including commercial designs attracting Western Europe, the U.S. and Japan.

Pereira, A.

Ethanol, employment and development: lessons from Brazil. Geneva, International Labour Office, 1986. 195 p.

"Assesses the impact of Brazil's biomass alcohol (ethanol) programs on oil import substitution, the balance of payments, employment and income distribution in its first five-year period (1975-76 to 1980-81)."

The Petroleum resources of Mexico. Washington, Energy Information Administration, for sale by the Supt. of Docs., G.P.O., 1983. 107 p. (Foreign energy supply assessment series)

"DOE/EIA-0423"

Presents estimates of crude oil in Mexico and rates of possible production and marketing. "Given appropriate development programs and favorable world markets, Mexico could control its crude oil production at higher levels for at least the next five decades . . . . Even if the undiscovered oil is not found and/or developed, Mexico could produce at a higher level from known deposits for at least the next decade."

Pirog, Robert L. Stamos, Stephen C., Jr.

Energy economics: theory and policy. Englewood Cliffs, N.J., Prentice-Hall, c1987. 328 p.

Polsky, Michael P.
Cogeneration versus generation. Public utilities fortnightly, v. 115, May 30, 1985: 20-23.
"Focuses on some actual results of the cogeneration provisions of existing federal legislation which, whether intended or not by the framers, are inconsistent with proper energy policy objectives under current conditions."

Quinn, Harold P., Jr.
Coal resource development and land use planning: the demands of SMRCA. Natural resources and environment, v. 3, winter 1989: 24-27, 58-60.
Describes effects of the Surface Mining Control and Reclamation Act on coal industry development and production decisions.

Ranney, J. Warren. Wright, Lynn L. Layton, Patricia A.
Hardwood energy crops: the technology of intensive culture. Journal of forestry, v. 85, Sept. 1987: 17-28.
This article describes research in SRIC, short-rotation intensive culture of selected hardwood species. "If a new biomass-based energy industry is to be sustained simultaneously with other forest-products industries, there will be a vital need to produce more wood faster and on more land. Intensive culture of hardwoods appears to fit this need very well . . . and can eventually provide specialized biomass for particular energy conversion technologies."

Rao, D. P. Babu, S. V. Rao, V. Subba.
Feasibility study of a large scale solar power generation system suitable for the arid and semi-arid zones. Solar energy, v. 27, no. 4, 1981: 313-322.
Proposes "combining the advantages of low temperature (below 50 degree C) solar energy collection and high temperature thermal energy conversion into electrical power, a scheme for continuous power generation."

Regulating energy. Natural resources & environment, v. 2, spring 1987: whole issue (56 p.)
Contents.--Regulation of interstate electric power: FERC versus the States, by Ronald D. Jones.--The war between the rates is over, but battles remain, by Lynn N. Hargis.--FERC, State regulators and public utilities: a tilted balance? by Bill Clinton and others.--State regulation of natural gas after Transco, by John M. Grower and R. Wilson Montjoy.--Take-or-pay: FERC's regulatory dilemma, by Hollye C. Doane.--A market-based approach to PURPA, by Paul F. Levy and Robert J. Keegan.--Section 210 of PURPA: are mid-course corrections needed? by D. Eugene Simmons.--The future of independent power production, by Michael J. Zimmer and Roger D. Feldman.--New discovery rules at FERC, by Mark D. Caudill and John E. Moeller, Jr.

Reid, R. L. Lumsdaine, E. Albrecht, L.
Economics of solar heating with homeowner-type financing. Solar energy, v. 19, 1977: 513-517.
"A feasibility study of the present-day economics of solar space and hot water heating is presented for a region with Tennessee's climate and geographic latitude. The economics of solar systems are considered for typical cities across the state representing different weather conditions. Financing is considered for conditions likely to be encountered by a homeowner. These costs are compared to current fossil fuels and electric power systems, with graphs presented to aid in economic decisions."

Reisner, Marc.
America's newest old energy source: hydro power. Amicus journal, v. 6, spring 1985: 42-52.
After a brief history of the role of hydroelectricity in the U.S., discusses the rush to build more dams on the nation's rivers. These dams often mean the loss of rapids, wild canyons, and waterfalls; article explores the environmental dilemma hydropower presents.

The most imaginative power company in the U.S. Science digest, v. 94, Aug. 1986: 65-69, 83, 87.
Reports on Southern California Edison (SCE) which is America's second-biggest utility and the world's leading innovator of alternative energy methods. SCE is producing electricity from wind, solar, biomass, nuclear, hydro, coal, oil, geothermal sources, and natural gas.

Renner, Michael.
Rethinking the role of the automobile. Washington, Worldwatch Institute, 1988. 70 p. (Worldwatch paper 84)
Contents.--Introduction.--Whither the automotive age?--Depending more on oil, searching for alternatives.--Enhancing fuel efficiency.--Reducing emissions.--Reshaping transportation.

Richards, Keith.
All gas and garbage. New scientist, v. 122, June 3, 1989: 38-41.
In landfills, biodegradable wastes are decomposed by bacteria to yield significant volumes of biogas. Author describes efforts to harness biogas as an energy source.

Riva, Joseph P., Jr.
The enigma of gas. Oil and gas journal, v. 87, Jan. 2, 1989: 56-57.
Discusses U.S. natural gas reserves and the relationship between oil and coal prices and domestic gas production.

The petroleum endowment of China. Congressional Research Service review, v. 7, June 1986: 19-22.
"China appears to have an important petroleum endowment that will be of considerable domestic benefit, but will not have a major impact on world oil trade."

Robbins, Richard L.
Law and solar energy systems: legal impediments and inducements to solar energy systems. Solar energy, v. 18, no. 5, 1976: 371-379.
Concentrates on state and local government activities to encourage solar heating and cooling.

Roberts, Leslie. Marshall, Eliot.
Long, slow recovery predicted for Alaska. Science, v. 244. Apr. 7, 1989: 22-24.
"The effects of the Alaskan oil spill may last for a decade or more; the full extent of damage may never be known."

Rodberg, Leonard S.
The future of cogeneration in New York City. New York affairs, v. 9, no. 1, 1985: 44-58.
"In New York City, cogeneration could provide a cheaper alternative to dependence on expensive oil. Federal and State policies already favor expansion of cogeneration; the city government could do much to facilitate expansion and remove institutional barriers."

Rogner, Hans-Holger.
Technology and the prospects for natural gas. Energy policy, v. 16, Feb. 1988: 9-26.
"Although technology advances are not restricted to any particular area or type of fuel, there now seems to be growing evidence that most probably the balance will tilt substantially in favour of natural gas. This paper is an attempt to account for the impact of present and future technical changes on the longer term European primary energy mix."

Rosenbaum, Walter A.
Energy, politics, and public policy. 2nd edition. Washington, Congressional Quarterly, 1987. 221 p.
"Examines the radical shift in public mood from near-panic to complacency and the no-less-radical shift between the energy policies of the Carter and Reagan administrations. Every important energy issue of the late 1980s is discussed: the moribund nuclear power industry, the environmental dangers of acid rain and the greenhouse effect, energy exploration on public lands, conservation, and the relative merits of renewable versus conventional energy sources. In explaining U.S. energy policies, the author pays particular attention to the importance of politics and the policy-making process."

Rosenfield, Arthur H. Hafemeister, David.
Energy-efficient buildings. Scientific American, v. 258, Apr. 1988: 78-84, 85.
"Energy conservation and economic development can go hand in hand. Efficiently designed homes and offices will slash energy bills, liberate investment capital and avoid the expense of building new power plants."

Ross, Marc.
Improving the efficiency of electricity use in manufacturing. Science, v. 244, Apr. 21, 1989: 311-317.
"Largely in response to the energy shocks of the 1970s, U.S. manufacturers reduced their real fossil fuel intensity (the weighted-average ratio of energy use to production in each subsector) by 50% and achieved zero growth in real electricity intensity. In the future, adoption of new technologies for increasing the efficiency of electricity use is likely to continue to be as important as new modes of electrification, implying that the real electricity intensity will be stable; but the outcome depends on electricity pricing and other policies, public and private."

San Diego's total resource recovery program: prototype for the future? American Water Works Association journal, v. 77, July 1985: 28, 30, 108, 110.
Describes a system now being tested which, by recycling waste water through water hyacinth beds, will produce both potable water and biogas to be used to generate electricity.

Sancton, Thomas A.
Planet of the year: with drought, famine and fouled beaches, the Earth warns of environmental disaster. Time, v. 133, Jan. 2, 1989: 26-30, 32-39, 41-42, 44-45, 47-50, 54, 63, 65-66, 68-78.
Discusses ecological and environmental problems in a global context, including overpopulation, pollution, waste of resources and destruction of natural habitats. Explains the complexities of these interlocking problems and fashions an agenda for environmental action, based on information from a conference of scientists and administrators sponsored by Time.

Scarborough-Bull, Ann.
Oil platform ecology. World & I, v. 3, Aug. 1988: 200-207.
"Offshore oil rigs, viewed by some as harmful to the environment, actually create thriving mini-ecosystem and superb fishing, diving, maricultural, and scientific opportunities."

Schneider, Stephen H.
Doing something about the weather. World monitor, v. 1, Dec. 1988: 28-37.
"The bottom line of the global warming, greenhouse effect issue is that we insult the environment at a faster rate than we understand the consequences. Simple prudence suggests that modifying the global climate at 10 to 50 times the average natural rates of change in the past is not a planetary experiment that we should casually allow." Dr. Schneider, an expert atmospheric scientist, calls for swift actions to increase energy efficiency and develop non-fossil fuel energy sources in the U.S.

Scott, Jerome E.
The solar water heater industry in South Florida: history and projections. Solar energy, v. 18, no. 5, 1976: 387-393.
Discusses the factors which caused the growth and decline of the solar water heating industry in Florida and assesses the prospects for the future use of solar water heating.

Sharlin, Harold Issadore.
Cogeneration benefits municipals. Public power, v. 43, May-June 1985: 10-11, 13, 15, 17, 51.
"Cogeneration was used in most U.S. industrial plants at the beginning of this century . . . . What is new is that the inherent efficiency of the cogeneration concept now gives it a prominent position in the national conservation thrust."

Sharp, Phillip R.
The world oil outlook: a congressional perspective. Forum for applied research and public policy, v. 2, fall 1987: 24-31.
"The danger to the United States is that the oil price collapse will boost consumption and demand, and shift monopoly power back to the Persian Gulf." Suggests actions that would "give us the equivalent of low-cost insurance policies that afford some protection against worst-case scenarios."

Shaw, Bill. Winslett, Brenda J. Cross, Frank B.
The global environment: a proposal to eliminate marine oil pollution. Natural resources journal, v. 27, winter 1987: 157-185.

The authors review recent tanker accidents that have had long- and short-term effects on marine ecology. Certain flagship-of-convenience tankers have a disproportionate share of spills but all registries are at fault. As efforts to reduce the problem have been unavailing "the authors propose an economic incentive/disincentive system that can be implemented internationally or unilaterally, and a phasing out of flagships-of-convenience." They close with an evaluation of the ethical issues involved.

Shea, Cynthia Pollock.
Harvesting the wind. World watch, v. 1, Mar.-Apr. 1988: 12-17.

Describes the use of wind turbines in California and their spread to other places in the world where coastal winds are high.

Sillman, S.
Performance and economics of annual storage solar heating systems. Solar energy, v. 27, no. 6, 1981: 513-528.

"Annual storage is used with active solar heating systems to permit storage of summer-time solar heat for winter use. This paper presents the results of a comprehensive computer simulation study of the performance of active solar heating systems with long-term hot water storage. A unique feature of this study is the investigation of systems used to supply backup heat to passive solar and energy-conserving buildings, as well as to meet standard heating and hot water loads."

Singer, S. Fred.
How to trim oil imports, dampen price swings. Journal of policy analysis and management, v. 8, winter 1989: 116-119.

Regarding imports, author suggests import restrictions, consumption taxes, a general oil tax, and financial incentives favoring production and exploration. Regarding prices, author suggests privatizing part of the strategic petroleum reserve and adopting a variable import fee.

NOPEC--the future of oil. National interest, no. 7, spring 1987: 61-67.

Analyzes the behavior of the OPEC countries and U.S. reaction to it, maintaining that OPEC can no longer control the world price of oil, never did function like a true cartel, and that "the market itself provides the ultimate protection from, and the central means of limiting, OPEC's power."

Slesser, Malcolm.
Can solar energy replace fossil-fissile energy sources? Solar energy, v. 25, no. 5, 1980: 425-428.

"It has been argued that solar energy devices can deliver neither the quantity nor quality of energy needed to replicate themselves, far less drive the economy. This proposition is normally examined using energy pay-back calculations, using the concept of opportunity energy requirement. It is shown that this calculation, while of short term significance, does not reveal the true viability of a solar energy capture device. That viability is best expressed by calculating the replacement energy requirement, taking into account energy quality."

Solar collector manufacturing activity 1987. Washington, Energy Information Administration, for sale by the Supt. of Docs., G.P.O., 1988. 49 p.

"DOE/EIA-0174(87)"

"Presents data on producer shipments and end use obtained from manufacturers of solar thermal collectors and photovoltaic modules." Also presents data on the size and status of this industry.

Special issue: energy policy. Financier, v. 11, Feb. 1987: whole issue (3-40 p.)

Partial contents.--Oil-price turbulence continues, by John M. Berry.--Chernobyl caused pause for Euro-market, by Frances Cairncross.--Stability goal throughout Asia, by Paul Handley.--Minimum floor-price for crude, by George M. Keller.--Clean technology for better coal use, by B. R. Brown.--Crisis requires energy management, by Thomas A. Page.--Transformation via deregulation, by Philip R. O'Connor.

Speer, Lisa. Libenson, Sue.
Oil in the Arctic: the environmental record of oil development on Alaska's North Slope. [New York] Natural Resources Defense Council, 1988. 78 p.

This report "documents alarming environmental problems at Prudhoe Bay and a disturbing record of industry compliance with environmental laws and regulations. It identifies vital missing data on the effects of pollution and habitat degradation. The report details the inadequacies of state and federal laws and regulations designed to protect the arctic environment, and highlights the absence of aggressive enforcement."

Stanfield, Rochelle L.
Fillerup--with what? National journal, v. 19, July 25, 1987: 1892-1897.

"As the United States again starts worrying about rising oil imports from the Middle East, there is renewed interest in switching energy sources for transportation." Increased conservation efforts, oil import taxes, and more emphasis on natural gas and coal are discussed as ways to lower U.S. dependence on foreign oil.

Starrs, Thomas A.
Legislative incentives and energy technologies: government's role in the development of the California wind energy industry. Ecology law quarterly, v. 15, no. 1, 1988: 103-158.

This comment "examines the legislative, regulatory, and judicial actions that prompted the commercial development of the wind energy industry in California. The growth of wind energy provides a dramatic example of the influence of law on technological development because of the clear relationship between the establishment of governmental incentives and the commercialization of the industry and because of the speed at which the industry matured."

Stern, Jonathan P.
UK energy issues 1987-92. Energy policy, v. 15, Dec. 1987: 498-502.

"The importance of, and attention devoted to, energy policy in the UK has greatly diminished over the past decade . . . . The International Energy Agency has taken a critical view of the UK position . . . by refusing to publish energy projections, . . . the government fails to recognize that its views on the possible future course of markets could be a valuable aid to decision makers, especially those outside the UK."

Stoiaken, Larry N.
Fluidized bed boilers come of age. Alternative source of energy, May-June 1988: 27-30, 32, 35-36.

"Fluidized bed boilers which cogenerate heat and electricity have been available for decades. Their high efficiency, clean burning characteristics and fuel flexibility attracted rave reviews initially, but with oil prices under five dollars a barrel, they were not a hit in the marketplace. Today, it's a different story. Fluidized bed sales are completely dominating activity in the boiler market."

Modular cogeneration: full steam ahead. Alternative sources of energy, Sept. 1987: 8-10, 12-13.

"Modular cogeneration systems are coming of age--but if developers in the field expect to meet analyst's market growth projections, they better start coming of age a little quicker."

Studniarz, Joseph J. Guha, P. K.
Cogeneration: a potential new source of utility peaking power. Public utilities fortnightly, v. 120, Sept. 17, 1987: 60-65.

"Cogeneration provides an opportunity for the independent power producers and the electric utility industry to cooperate to the benefit of all parties, including the utility ratepayers . . . . Many electric utilities are proceeding with plans to install simple-cycle gas turbines to meet growth in system peak demand."

Sullivan, K. M.
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"RL 340/88, July 28, 1988"
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Describes research at the Argonne National Laboratory in heat exchanges designed specifically for recovering thermal energy from low-grade sources, these in which the driving face for heat transfer is so low that it is considered economically possible to recover it.

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Trofimuk, Andrei.
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Global climate changes: greenhouse effect. Hearing, 100th Congress, 2nd session. Mar. 10, 1988. Washington, G.P.O., 1988. 147 p.
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Greenhouse effect and global climate change. Hearings, 100th Congress, 1st session. Parts 1 and 2. Nov. 9-10, 1987 and June 23, 1988. Washington, G.P.O., 1988. 2 v. (298, 213 p.) (Hearings, Senate, 100th Congress, 1st session, S. Hrg. 100-461)

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Status and outlook of the strategic petroleum reserve. Hearing, 100th Congress, 2nd session. Aug. 8, 1988. Washington, G.P.O., 1988. 74 p. (Hearing, Senate, 100th Congress, 2nd session, S. Hrg. 100-897)

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Oil Pollution Liability and Compensation Act of 1986. Hearing, 99th Congress, 2nd session on S. 2340. Apr. 29, 1986. Washington, G.P.O., 1986. 83 p. (Hearing, Senate, 99th Congress, 2nd session, S. Hrg. 99-651)

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Impact of imports and foreign investment on national security. Hearing, 100th Congress, 1st session on S. 285, S. 470, S. 490, S. 694, and Section 171 of H.R. 3. Mar. 25, 1987. Washington, G.P.O., 1987. 166 p. (Hearing, Senate, 100th Congress, 1st session, S. Hrg. 100-171)

U.S. Dept. of Energy.
Domestic policy review of solar energy; response memorandum to the President of the United States. Springfield, Va., Available from NTIS, 1979. 45, 57 p.
"TID-22834"

Describes the findings of the Interagency Solar Energy Policy Committee, which was formed to review Federal solar energy programs and policy, to assess the energy supply potential of solar energy, and to recommend an overall solar strategy to coordinate Federal, state, and private solar development programs.

U.S. Energy Information Administration.
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"DOE/EIA-0501"

Presents information on China's crude oil resources and supply capability and on the petroleum geology of China's major basins. "The study aims at assessing, as accurately as possible, the potential limits for both discovered and undiscovered oil resources in China, as well as the rates at which petroleum might feasibly be drawn from them."

U.S. Energy Information Administration. Office of Energy Markets and End Use.
International energy outlook, 1985 with projections to 1995. Washington, The Administration, 1986. 52 p.

Assesses world energy growth prospects and fuel substitution possibilities; presents data on world oil prices, oil production potential, oil consumption trends, world energy consumption, and variation among international energy projections.

U.S. Energy Information Administration. Office of Oil and Gas.
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"DOE/EIA-0216(87)"

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U.S. Environmental Protection Agency. Office of Policy, Planning, and Evaluation. Office of Research and Development.
The potential effects of global climate change on the United States: draft report to Congress. Edited by Joel B. Smith and Dennis A. Tirpak. Washington, The E.P.A., 1988. 2 v. (ca. 286 p., ca. 411 p. in various pagings)

Uses data from atmospheric models known as general circulation models as the basis for the climate change scenarios of the greenhouse effect. These scenarios were used to analyze the potential impacts on sea level rise, water resources, agriculture,

forests, biodiversity, health, air pollution, and electricity demand; impacts were evaluated on a regional and national scale. Results include: reduction in forest range; changes in forest composition; increased rate of species extinction; increase in coastal flooding; loss of wetlands; increase of estuarine salinity; changes in water supply and quality; northward shift of agricultural productivity; increased demand for irrigation; increased demand for electricity; increase in air pollution; increase in summer mortality. Regions considered: California; Great Lakes; Southeast; Great Plains.

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U.S. General Accounting Office.

Alternative fuels: Parachute Creek Shale oil project's economic and operational outlook; report to the chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives. June 18, 1987. Washington, G.A.O., 1987. 69 p.

"GAO/RCED-87-126, B-223418"

"This report assesses the economic and technical viability of the SFC-assisted U.S. Synthetic Fuels Corporation Parachute Creek shale oil project and makes recommendations aimed at minimizing additional federal outlays on the project."

Canadian power imports: update on electricity imports in the Northeast; report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives. Mar. 3, 1989. Washington, G.A.O., 1989. 23 p.

"GAO/RCED-89-51, B-208231"

Reports that "between January 1986 and December 1988, northeastern U.S. utilities had signed two contracts and one preliminary agreement for longer term firm power. All three were with Hydro-Quebec, a Canadian provincial utility. These new agreements indicate that northeastern utilities are, in our opinion, continuing to view Canadian electricity purchases as one economic alternative for obtaining future power resources." Notes that "U.S. utilities have established operational limits on the amount of power that should be imported from Hydro-Quebec at any one time, and Hydro-Quebec has developed plans to make major improvements in its transmission system."

Energy conservation: Federal shared energy savings contracting; report to congressional requesters. Apr. 17, 1989. Washington, G.A.O., 1989. 13 p.

"GAO/RCED-89-99, B-232922"

"In a performance contract, known in the federal sector as a shared energy savings contract, a contractor installs and maintains energy conserving equipment. The contractor is paid a percentage of the energy cost savings directly resulting from the enery conservation measures during the life of the contract." This report examines why only two Federal agencies have used these contracts, and identifies three major impediments to the contracts' use: "uncertainty about the applicaility of a particular procurement policy and practice, lack of management incentives, and difficulty in measuring energy and cost savings." Also discusses how state governments and private firms are using these contracts.

Energy information: status, cost, and need for energy consumption and fuel switching data; report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. Apr. 19, 1989. Washington, G.A.O., 1989. 17 p.

"GAO/RCED-89-98, B-234824"

Reviews the adequacy of the nation's energy information program data on industrial fuel switching, examining the "(1) status of information collected and published on industrial fuel use and fuel switching, (2) costs to government and industry of collecting such information, and (3) need for such information."

Energy issues. Nov. 1988. Washington, G.A.O., 1988. 38 p. (GAO transition series)

"GAO/OCG-89-16TR; B-158195"

"Report on the Department of Energy describes our concerns about the following issues: (1) modernizing and managing the safe operation of the Department's nuclear weapons complex, (2) reducing the nation's vulnerability to oil disruptions, (3)

developing a nuclear waste program, (4) commercializing clean coal technologies, (5) responding to changes in the electric utility industry, (6) improving controls over the export of sensitive nuclear data, and (7) revitalizing the uranium enrichment program."

Energy management: appeals procedure for State and local assistance programs; report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. May 10, 1989. Washington, G.A.O., 1989. 26 p.

"GAO/RCED-89-127, B-235189"

Examines the Dept. of Energy's processes through which states may appeal decision that DOE field offices make on state and local energy conservation grant programs. Finds that "nationwide, no state has attempted to use the energy conservation, energy extension, or weatherization administrative review procedures . . . . Two states did appeal energy conservation grant decisions in 1988, but they did not use the administrative review procedures." Also finds some state and local officials are confused by the DOE language and most think the process for selecting panels for the programs is potentially biased against the states.

Energy regulation: allegations concerning the development of fishways at hydropower projects; report to the chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives. July 28, 1988. Washington, G.A.O., 1988. 13 p.

"GAO/RCED-88-186, B-230363"

Concludes that the hydropower projects at Sewalls Falls, New Hampshire; Lockwood, Maine; and Scott's Mill, Virginia; have provided adequate fishways facilities for anadromous fish such as salmon per Section 18 of the Federal Power Act. Furthermore, the Dept. of Interior and FERC have supported adequate fishways at these projects and have not impeded U.S. Fish and Wildlife Service's efforts to follow Section 18.

Energy regulation: opportunities for strengthening hydropower cumulative impact assessment; report to the Chairman, Committee on Energy and Commerce, House of Representatives. Mar. 10, 1988. Washington, G.A.O., 1988. 20 p.

"GAO/RCED-88-82, B-229261"

Report focuses on "(1) FERC's plans for using an alternative to the Cluster Impact Assessment Procedure (CLAP)--the River Basin Environmental Impact Statement procedure--to assess the cumulative impact of hydroelectric projects and (2) deficiencies cited by interested parties in how FERC carries out cumulative impact assessments and whether the development of comprehensive river basin plans can help address these deficiencies."

Energy security: an overview of changes in the world oil market; report to the Congress. Aug. 31, 1988. Washington, G.A.O., 1988. 74 p.

"GAO/RCED-88-170, B-221750"

"U.S. oil production has declined since 1985, and oil imports have increased, reversing the trend established in the early 1980s and raising renewed concern about the energy security of the United States." This report evaluates the change in U.S. vulnerability since the 1970s to an oil supply disruption and overviews changes in the world oil market, identifying areas for potential actions.

Energy security: analysis of studies on economic consequences of an oil import tariff; briefing report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. June 16, 1989. Washington, G.A.O., 1989. 35 p.

"GAO/RCED-89-70BR, B-221750"

Compares the assumptions and methodologies of studies by the Dept. of Energy and Harvard University's Energy and Environmental Policy Center that arrived at different conclusions regarding the net economic impact of an oil import tariff. "The DOE and the Policy Center studies reached different conclusions principally because their estimates of macroeconomic costs--the impact of the tariff on the Gross National Product (GNP)--were based on different assumptions."

Fossil fuels: commercializing clean coal technologies; report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. Mar. 29, 1989. Washington, G.A.O., 1989. 41 p.

"GAO/RCED-89-80, B-230504"

Reviews DOE's implementation of the Clean Coal Technology program, assessing its problems and progress and the effect that potential acid rain control legislation would have on the program.

Fuel ethanol: imports from Caribbean Basin Initiative countries; report to congressional requesters. Feb. 21, 1989. Washington, G.A.O., 1989. 42 p.

"GAO/NSIAD-89-106, B-234282"

Currently, Caribbean countries may export fuel ethanol to the U.S. duty-free if local feedstock from the region accounts for at least 75% of the value of the product. This report concludes that the requirement is not economically feasible for Caribbean producers. Analyzes three options to modify the requirement.

Inland oil spills: stronger regulation and enforcement needed to avoid future incidents; report to the Honorable Arlen Specter, U.S. Senate. Feb. 22, 1989. Washington, G.A.O., 1989. 34 p.

"GAO/RCED-89-85, B-232923"

"This report assesses federal regulation of above ground oil storage tanks and certain elements of the federal oil spill cleanup program." Includes specific recommendations for both Congress and EPA to improve safety of oil tank storage, encourage compliance with regulations, and improve response to spills like those in the Pittsburgh and San Francisco areas in 1988.

International energy agency: effectiveness of members' oil stocks and demand restraint measures; report to the Honorable Howard M. Metzenbaum, U.S. Senate. Feb. 6, 1989. Washington, G.A.O., 1989. 44 p.

"GAO/NSIAD-89-42, B-217506"

Finds that most IEA member countries lack 90 days of accessible emergency oil stocks, and the extent to which countries will use emergency oil stocks in a supply disruption is unclear. Also, many IEA countries plan to use demand restraint measures, during oil disruptions, and the U.S. questions the effectiveness of reliance on such measures.

Offshore oil and gas resources: differences in estimates by Interior and industry for offshore California; briefing report to the Honorable Pete Wilson, United States Senate. July 1986. Washington, G.A.O., 1986. 20 p.

"GAO/RCED-86-179BR"

Discusses the Dept. of Interior's methodology used to develop estimates of offshore oil and gas resources, Interior's assumptions used to estimate undiscovered oil and gas resources offshore California and industry estimates, and the relevant differences between Interior's procedures and assumptions used to estimate resources in the Gulf of Mexico and offshore California.

Oil reserve: status of strategic petroleum reserve activities as of September 30, 1988; fact sheet for the chairman, Environment, Energy, and Natural Resources Subcommittee, Committee on Government Operations, House of Representatives. Jan. 25, 1989. Washington, G.A.O., 1989. 22 p.

"GAO/RCED-89-63FS, B-208196"

Reports on DOE's progress in developing, operating, and filling the SPR during the second half of fiscal year 1988. During the past 6 months, DOE added 9.7 million barrels of crude oil to the SPR and disbursed $130 million for oil acquisition and transportation. "As of September 30, 1988, the SPR inventory totaled 554.7 million barrels of oil."

Petroleum products: effects of imports on U.S. oil refineries and U.S. energy security; report to the chairman, Subcommittee on Fossil and Synthetic Fuels, Committee on Energy and Commerce, House of Representatives. Apr. 1986. Washington, G.A.O., 1986. 73 p.

"GAO/RCED-86-85"

Examines oil product import trends, the impact of refinery closures on U.S. ability to meet refining needs in a supply disruption, and the effects of policy options designed to ensure adequate refining capacity. Concludes that though trends should be monitored, "it would be difficult at the present time to justify product import restrictions on the basis of U.S. energy security needs."

Strategic Petroleum Reserves: analysis of alternative financing methods; report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. Mar. 16, 1989. Washington, G.A.O., 1989. 37 p.

"GAO/RCED-89-103, B-233820"

Examines alternative, nontraditional methods for acquiring or financing SPR oil.

Synthetic fuels: analysis of DOE's estimate of the sale value of the Great Plains Project; report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. Oct. 21, 1988. Washington, G.A.O., 1988. 12 p.

"GAO/RCED-89-36, B-207876"

Reviews "the proposed sale of the Great Plains coal gasification project to Basin Electric Power Cooperative."

Synthetic fuels: comparative analyses of retaining and selling the Great Plains Project; report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives. June 10, 1988. Washington, G.A.O., 1988. 19 p.

"GAO/RCED-88-172, B-207876"

U.S. natural gas availability: gas supply through the year 2000. Washington, Office of Technology Assessment, 1985. 252 p.

"OTA-E-245, Feb. 1985"

Reports "a study of the domestic (Lower 48 States onshore and offshore) natural gas availability over the next few decades. OTA was asked to examine both conventional and unconventional sources of natural gas, review current estimates of resource bases and production potentials, and examine key technical issues that will affect the future development of those sources."

U.S. oil production: the effect of low oil prices; special report. Washington, U.S. Office of Technology Assessment, for sale by the Supt. of Docs., G.P.O., 1987. 133 p.

"OTA-E-348, Sept. 1987"

Reviews the effect of volatile oil prices on U.S. domestic oil production.

U.S. options for energy independence. Edited by Nake M. Kamrany. Lexington, Mass., Lexington Books, c1982. 185 p.

U.S. vulnerability to an oil import curtailment. Washington, Congress of the U.S., Office of Technology Assessment, For sale by the Supt. of Docs., G.P.O., 1984. 158 p.

Udall, James R.

Polar opposites. Sierra, v. 72, Sept.-Oct. 1987: 40-48.

It's oil development versus wilderness in the Arctic National Wildlife Refuge. No one knows how much oil is there, but drilling for it would surely spoil one of the wildest places left in America."

Vanderberg, Richard D.

OPEC's future. International perspectives, Mar.-Apr. 1986: 13-16.

Analyzes the world oil situation, predicting the OPEC countries will endure low prices for the next few years, but later will become the primary supplier for the world petroleum market at a higher price.

Verleger, Philip K.
Oil markets in turmoil: an economic analysis. Cambridge, Mass., Ballinger Pub. Co, c1982. 289 p.

Wallis, Allen.
U.S.-Japan energy cooperation. Washington, U.S. Dept. of State, 1987. 3 p. (Current policy, no. 1025)
An address by the Under Secretary for Economic Affairs and Agriculture before the U.S.-Japan Energy Policy Conference sponsored by the Atlantic Council, Washington D.C., Nov. 12, 1987.

Ward, Roscoe F.
Alcohols as fuels--the global picture. Solar energy, v. 26, no. 2, 1981: 169-173.
"A number of countries have programs which encourage the production and use of ethanol and methanol to extend gasoline supplies. These programs are often based on food crops which are subject to wide variations in both cost and availability. Some of the programs are reviewed, and the costs of alcohols are compared to world market prices of gasoline."

Warren, Betty.
The energy and environment checklist: an annotated bibliography of resources. San Francisco, Friends of the Earth : distributed by Friends of the Earth Books, c1980. 228 p.

Wendt, E. Allan.
The oil market and U.S. energy security. Dept. of State bulletin, v. 86, June 1986: 51-54.
In this testimony before a congressional committee, an administration official discusses the impact of falling oil prices on both consumer and exporting countries. Regarding energy security, "the central question here is whether lower oil prices now may hasten the day when Persian Gulf exporters--with extensive reserves and low production costs--regain the dominance they exercised for nearly a decade . . . . If we consider its total impact, we are convinced an oil import fee would not enhance our energy security."

Why choose coal? The case for coal in power generation. London, International Coal Development Institute 1989? 31 p.
"This report presents the case for coal as the best option against all the main criteria economics, reserves, environmental, and safety issues power companies examine when making their investment decisions."

Wilson, Ernest J., III.
World politics and international energy markets. International organization, v. 41, winter 1987: 125-149.
Looks at the interactions between international energy markets and politics, concluding that oil is like other commodities and that the wrong questions were asked about oil in the 1970s.

Wilson, John S. Halow, Jack. Ghate, Madhav R.
Gasification: key to chemicals from coal. Chemtech, v. 18, Feb. 1988: 123-128.
Describes projects in the Dept. of Energy's coal gasification and hot gas stream cleanup programs, emphasizing that these programs may ultimately contribute to chemicals production from coal and that coal will be the mainstay of the chemical industry feedstock.

Wind power. Alternative sources of energy, no. 91, May-June 1987: 63-68, 71-72.
Contents.--UK wind industry gains foothold, by John Twidell and Janice McLaughlin.--Denmark continues support for wind energy, by Alfred E. Pedersen.

Wise, D. L.
Biomass production and bioconversion to both fuel and food employing solar energy technology--an alternative to conventional farming and the conversion of food to fuel. Solar energy, v. 27, no. 2, 1981: 159-178.
Discusses "a bioconversion process to produce a liquid fuel (methanol) and single cell protein (SCP) from synthesis gas."

Woods, Michael.
Clean power from coal. World & I, v. 14, Jan. 1989: 282-287.
"New technologies promise to transform our most abundant fossil fuel into an environmentally attractive energy source."

World oil options and alternatives. Congressional Research Service review, v. 9, Mar. 1988: 1-23.
Contents.--Overview, by Carl E. Behrens.--The Persian Gulf and energy security, by Robert L. Bamberger and Clyde R. Mark.--Domestic and world oil reserves, by Joseph P. Riva, Jr.--The energy role of the Arctic National Wildlife Refuge, by John L. Moore.--The U.S.-Canada Free Trade Agreement: energy issues, by Duane A. Thompson and Lawrence C. Kumins.--Oil conservation, by Richard R. Rowberg and Fred J. Sissine.--Energy poll shows public interest.--A tariff on imported oil? by Salvatore Lazzari.--Alcohol fuels, by Migdon R. Segal.--Electricity regulation: the coming national debate, by Robert D. Poling.

World resources 1987; a report by the International Institute for Environment and Development and the World Resources Institute. New York, Basic Books, 1987. 369 p.
Aims to provide an "objective, current, global assessment of the natural resource base that supports the world economy." This volume contains issue analysis of hazardous waste management and sustainable development in sub-Saharan Africa as well as reviews and data tables concerning population and health, human settlements, food and agriculture, forests and rangelands, wildlife and habitat, energy, freshwater, oceans and coasts, atmosphere and climate, global systems and cycles, and policies and institutions.

Woutat, Donald.
Energy gamble: the high price of cheap oil. Los Angeles times, Dec. 25, 1988, pt. 1: 1, 41-43; Dec. 25, pt. 4: 1, 3-4; Dec. 26, pt. 1: 1, 19-22; Dec. 27, pt. 1: 1, 14-15.
This series of four articles examines the adverse effects of today's plentiful oil supply and cheap prices on U.S. energy policy, including a simulated account of an energy crisis in Southern California from a fictional cutoff of Middle East oil.
Contents.--Analysts fear oil glut lulls public: memory of shortage fades.--The oil crisis scenario.--Oil glut shakes up OPEC, prompts ties to customers: wedge grows among cartel.--Energy policy debate gets short shrift amid oil glut: some see deep trouble in 1990s.

Yergin, Daniel.
Energy security in the 1990s. Foreign affairs, v. 69, fall 1988: 110-132.
Focusing on oil supplies and imports, author assesses a current, positive margin of energy security for the U.S. To maintain this margin against unforeseen crises, he suggests that energy security policy should: slow the growth of U.S. oil imports; strengthen the domestic oil and gas industry; increase natural gas use; promote energy efficiency; support research and development; fortify the Strategic Petroleum Reserve; renew U.S. commitment to the International Energy Agency; and ensure competitive markets.

Young, Lawrence L., III.
Health and safety hazards associated with solar concentration systems. Solar energy, v. 22, no. 4, 1979: 329-333.
"Discusses the primary health and safety hazards associated with solar concentration systems. The limiting hazard is chorioretinal damage. This article also discusses the methodologies derived to compute the unique safety and health hazards associated with solar energy collector and receiver systems. Research in this area is continuing, especially for eye hazards, with more extensive work planned."

Zimmer, Michael J. Jones, Beverly E.
Cogeneration: boon or bane to consumers? Public utilities fortnightly, v. 117, June 12, 1986: 23-31.
Describes the benefits of cogeneration to society and to industrial and commercial energy users. Urges that, "now is the time for the electric utilities to accept the new electricity marketplace and to work with cogenerators to achieve a system by which, together, the two industries may satisfy their mutual objectives through the next century."

Zwicker, Denise Allen.
The changing nature of gasoline. Lamp, v. 70, summer 1988: 18-23.
Describes how gasoline is made and briefly discusses environmental aspects of gasoline and oxygenated fuels such as gasohol and methanol.

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Design procedure for solar heating systems 17
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Domestic policy review of solar energy; response memorandum 30
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Ecological effects of a major oil spill on Panamanian coastal 7
Economic analysis of world energy problems 12
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Edge of the Arctic 10
Effect of C02 emissions from coal fired power plants: a review 27
Effect of wood and coal stoves on household use of electricity 20
Efficiency: a new agenda 4
Electric power wheeling and dealing: technological 7
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Energy for a sustainable world 8
Energy from biomass and wastes: a review and 1983 update 17
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Energy information: status, cost, and need for energy consumpt 31
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Energy issues and policies in Eastern Europe 5
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Energy management: appeals procedure for State and local 32
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Energy policy and socioeconomic growth in low-income 13
Energy policy statement: a call to action for the next President 8
Energy policy, the environment, and Congress 10
Energy regulation: allegations concerning the development 32
Energy regulation: opportunities for strengthening hydropower 32
Energy security 6
Energy security and the need for nuclear energy 7
Energy security dilemma 10
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Energy security in the industrialized world 6
Energy security revisited 14
Energy security white paper: U.S. decisions and global trends 8
Energy security: an overview of changes in the world oil 32
Energy security: analysis of studies on economic consequences 32
Energy security; a report to the President of the United States 8
Energy supply interruptions and national security 2
Energy, politics, and public policy 24
Energy, security, and economic development in East Asia. 8
Energy, the conservation revolution 12
Energy-efficient buildings 24
Enigma of gas 24
Environmental and petroleum resource conflicts: a simulation 12
Ethanol, employment and development: lessons from Brazil 22
Ethanol: economic and policy tradeoffs. 9
Fate and effects of oil in the sea. 9
Feasibility study of a large scale solar power generation 23
Federally imposed regulations: Why you pay too much for 9
Fillerup--with what? 27
Finding the best energy balance 16
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Forecasting oil prices into the 1990s 21
Fossil fuels: commercializing clean coal technologies; report 33
Four corners: a national sacrifice area? 19
From permits to power: hydro development begins to deliver its 18
Fuel ethanol and agriculture: an economic assessment 12
Fuel ethanol cost-effectiveness study: final report. 11
Fuel ethanol: imports from Caribbean Basin Initiative countries 33
Fueling the maritime strategy 19
Future of big oil 21
Future of cogeneration in New York City 24
Future of Federal energy conservation policy 9
Gas contracting: the lessons of the seventies 18
Gasification: key to chemicals from coal 35
Gasoline and groundwater contamination; background paper 20
Gasoline conservation versus pollution control: unintended 16
Gasoline consumption and cities: a comparison of U.S. cities 21
Get ready for the coming oil crisis 21

Getting warmer--should we worry? 12
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Hard coals make bad law: congressional parochialism versus 14
Hardwood energy crops: the technology of intensive culture 23
Harvesting the wind 3, 26
Health and safety hazards associated with solar concentration 36
Health risks of toxic emissions from a coal-fired power plant. 13
Higher oil prices and the world economy: the adjustment problem 14
How middle powers can manage resource weakness: Japan 3
How to trim oil imports, dampen price swings 26
If you can't stand the heat . . . read on for a citizen's guide 7
Impact of CO2 on world climate: a cause for concern 1
Impact of imports and foreign investment on national security 30
Impending United States energy crisis 14
Improved and safer nuclear power 28
Improving the efficiency of electricity use in manufacturing 25
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Industry in transition: the hydropower industry looks ahead 18
Inland oil spills: stronger regulation and enforcement needed 33
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International energy outlook, 1985 with projections to 1995 30
International energy program 29
Law and solar energy systems: legal impediments and inducement 24
Legislative incentives and energy technologies: government's 27
Lessons from a decade of offshore environmental impact 2
Lessons from the 1986 oil price collapse 11
Long, slow recovery predicted for Alaska 24
Low-head hydropower for local use 15
LUST in America 28
Modern windmills 20
Modular cogeneration: full steam ahead 27
Most imaginative power company in the U.S. 23
Mythology of energy 3
National oil security policy 30
National Strategic Petroleum Reserve 5
NATO allies, Japan and the Persian Gulf 11
Natural gas to play larger role in Soviet foreign trade 28
New directions for oil policy: rethinking energy security 10
New electric power technologies: cost and performance 2
New electric power technologies: problems and prospects 21
New era in energy regulation 13
New frontiers for energy independence. 21
New oil crisis and fuel economy technologies: preparing 3
NOPEC--the future of oil 26
Ocean thermal energy conversion--a significant solar resource 19
Octane, ozone, and obstinacy 12
Offshore oil and gas resources: differences in estimates 33
Oil & gas producing industry in your State, 1986-1987 22
Oil and America's security. 22
Oil and the world today: who will pay for tomorrow's oil? 15
Oil from the centre of the Earth 12
Oil in the Arctic: the environmental record of oil development 27
Oil market and U.S. energy security 35
Oil markets in turmoil: an economic analysis 35
Oil on the Ohio: lessons learned 5
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Politics of energy conservation 21
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Present and future oil usage 3
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Regulating energy. 23
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Setting our houses in order 7
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Solar gasification of coal, activated carbon, coke and coal 13
Solar water heater industry in South Florida: history 25
Some dare call them robber barons 11
Soviet gas and European security 1
Soviet oil industry in the twelfth five-year plan 6
Soviet oil: the move offshore 17
Special issue: energy policy 26
Spill may halt drilling bill, help liability efforts 13
Spills and spoils of big oil 12
Status and outlook of the strategic petroleum reserve 30
Strategic Petroleum Reserve security; report to accompany 30
Strategic Petroleum Reserves: analysis of alternative financing 34
Structuring a small national or state solar energy program 15
Substitution of petroleum products in Brazil 17
Synthetic fuels: analysis of DOE's estimate of the sale value 34
Synthetic fuels: comparative analyses of retaining and selling 34
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U.S. natural gas availability: gas supply through the year 200 34
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U.S. options for energy independence 34
U.S. vulnerability to an oil import curtailment 34
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World oil options and alternatives. 36
World oil outlook: a congressional perspective 25
World politics and international energy markets 35
World price of oil: a medium-term analysis 15
World resources 1987; a report by the International Institute 36

RESOLVED: THAT THE FEDERAL GOVERNMENT SHOULD ADOPT AN ENERGY POLICY WHICH SUBSTANTIALLY REDUCES THE NON-MILITARY CONSUMPTION OF FOSSIL FUELS IN THE UNITED STATES

A Guide to Information Sources on the 1989-1990 Intercollegiate Debate Topic

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A GUIDE TO INFORMATION SOURCES
on the 1989-1990
College Debate Topic

INTRODUCTION

This research guide identifies sources of information on the conservation of fossil fuels for both strategic and environmental reasons. It includes sources and strategies for locating information that discuss the use of petroleum, coal, natural gas, alternative sources of energy and U.S. energy policy. Topics of related concern such as risk and environmental impact of the use of various alternative energy sources may also be found in the sources included in this guide. This guide describes reference and research tools and provides search strategies that might be used when consulting these tools.

Selected SEARCH TERMS are identified in the text. They are suggestive of some principal topics the researcher may wish to search under and are intended to help define a research strategy, not to limit it.

A COMPREHENSIVE LIST OF KEY RESEARCH TOOLS

This is a list of key research tools described in this guide, and the page where each is mentioned.

American Statistics Index 55
Applied Science & Technology Index 49
Bell and Howell Newspaper Indexes 53
CIS Index 55
Congressional Quarterly Weekly Report 54
Congressional Record 54
Depository Libraries 53
Digest of Public Bills and Resolutions 55
DOE Energy 50
Encyclopedia of Associations 56
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Library of Congress Subject Headings 49
Magazine Index 51
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Monthly Catalog of United States Government Publications 54
National Newspaper Index 53
New York Times Index 52
NEXIS 53
NTIS 51
P/E News 51
Public Affairs Information Service 52
Reader's Guide to Periodical Literature 52
Statistical Reference Index 55
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HOW TO LOCATE REFERENCE SOURCES

BOOKS

Many libraries around the country, especially large college and research libraries, use Library of Congress subject headings in their catalogs. To learn how books on U.S. energy conservation policy are categorized in these libraries, consult the two volume guide, *Library of Congress Subject Headings*. The most relevant LC subject headings for U.S. energy conservation policy are listed below:

Coal--Combustion--Environmental Aspects
Energy Conservation--United States
Energy Consumption--Climatic Factors
Energy policy--United States
Greenhouse Effect, Atmospheric
National Security
Nuclear energy
Petroleum Conservation--United States
Renewable energy sources
Solar energy

JOURNAL ARTICLES

Citations to journal articles and other materials about fossil fuel conservation may be found in a number of printed indexes and online bibliographic data bases. The materials covered by the printed indexes are briefly described here and search strategies are given.

Online bibliographic data bases enable the researcher to locate citations to journal articles and other materials quickly by using a computer terminal to search a machine-readable file. Online data bases allow the researcher to combine search terms in ways that are impossible in a printed index or library catalog and to simultaneously search material that would be contained in printed index volumes covering several years. Many of the printed indexes described in this guide are also available as online data bases. A reference librarian can advise you on the availability of computerized search services in your area; there may be a fee for use.

Another alternative form for printed indexes is available via the new CD ROM (Compact Disk Read Only Memory) technology. CD ROM systems may be available in some college or research libraries. This technology enables a user to search materials available in printed and online indexes using a personal computer. Some systems make copies of articles available through microform. A user fee may be charged.

Applied Science & Technology Index

This is a cumulative index to English language periodicals published by the H. W. Wilson Company. The subject fields of interest include: energy research, energy resources, petroleum and gas. The main body of the index consists of subject entries to periodical articles arranged in one alphabet. Some index terms of use include:

Biomass energy
Coal
Energy conservation
Energy consumption
Energy policy
Fuel
Geothermal energy
Hydroelectric power
Nuclear fuels
Oil fuel
Petroleum
Renewable energy sources
Solar power

Synthetic fuels
Tidal power
Waste fuel
Wind power

DOE Energy

The database of the United States Department of Energy is one of the world's largest sources of literature references on all aspects of energy and related topics. It provides coverage of journal articles, report literature, conference papers, books, patents, dissertations, and translations. The following topics are included:

Nuclear
Wind
Fossil
Geothermal
Tidal
Solar

Energyline

This database is the machine-readable version of Energy Information Abstracts and also includes 8,000 energy/environment records dating back to 1971 from *The Energy Index*. Its coverage includes journals, books, Congressional committee prints, conference proceedings, speeches, and statistics. Energyline provides information on scientific, technical, socio-economic, governmental policy and planning, and current affairs aspects energy. The following are some suggested search terms used by this database:

Cogeneration
Energy conservation, industrial
Energy conservation (by region)
Energy supply (by region)
Fossil fuel demand

Enviroline

This database is produced by the Environment Information Center. It covers the world's environmental information. Its comprehensive, interdisciplinary approach provides indexing and abstracting coverage of more than 5,000 international primary and secondary source publications reporting on all aspects of the environment. The following are useful subjects to search.

Bioconversion
Coal resources
Electricity conservation, industrial
Energy conservation
Energy conservation, industrial
Energy policy, general
Environmental constraints--Fossil fuel
Fossil fuel resources
Fuel conservation, transport
Nuclear power plants
Solar energy
Synthetic fuels
Wind energy

Environmental bibliography

Covers the fields of general human ecology, atmospheric studies, energy, land resources, water resources, and nutrition and health. More than 300 periodicals are indexed thereby providing quick-and-easy access to article references for energy environment research needs. Some useful search terms are the following:

Coal
Energy conservation
Energy conservation (Policy impact)
Energy security
Energy, alternative
Synthetic fuel production

Magazine index (microfilm)

Magazine Index provides citations to materials in over 400 popular magazines, focusing on coverage of current affairs, leisure time activities, arts, sports, and science and technology. References from the last five years are listed alphabetically by subject and author in one alphabetical display on the Magazine Index microfilm reader-terminal. The Index is updated monthly, and uses Library of Congress subject headings. Consult the list given under **BOOKS** or the two-volume *Library of Congress Subject Headings* for appropriate search terms.

NTIS

Consists of government-sponsored research, development, and engineering studies plus analysis prepared by Federal agencies, their contractors or grantees. It is the means through which unclassified, publicly available, unlimited distribution reports are made available for sale from such agencies as the Departments of Energy, Transportation or Commerce. Useful search terms include:

Alcohol fuels
Coal
Cogeneration
Energy conservation
Energy policy
Fossil fuels
Greenhouse effect

P/E News

This database is produced by the American Petroleum Institute. It corresponds to the printed publication *Petroleum/Energy Business News Index*. It provides cover-to-cover indexing of 16 primary publications and selected coverage of some 300 additional technical journals related to the petroleum and energy industry. Subject coverage includes the following general areas:

Environment
Exploration
Government regulations and legislation
Public affairs
Statistics
Supply and demand
Synfuels
Trends

Public Affairs Information Service (PAIS)

PAIS is a subject index of books, pamphlets, government publications, reports of public and private agencies, and periodical articles relating to economic and social conditions, public administration, and international relations. It is issued monthly; there are also three quarterly cumulations and an annual bound volume with an author index. Some search terms are listed below; also use *PAIS* cross-references.

Alcohol as fuel
Atomic power
Biomass energy
Coal industry
Fossil fuel
Fuel
Geothermal energy
Hydroelectric power
Petroleum industry
Power resources
Renewable energy sources
Solar power
Wind power
Military assistance
Military strategy

Reader's Guide to Periodical Literature

The *Reader's Guide* is an author/subject index to over 180 periodicals of general interest published in the United States and Canada. It is published twice a month September to December and in March, April, and June; it appears monthly in January, February, May, July, and August. The quarterly and annual cumulations can expedite your search. Search under Library of Congress subject headings and the *Reader's Guide's* cross-references, which include:

Alcohol as fuel
Biomass energy
Coal
Energy conservation
Energy policy
Fuel
Hydroelectric power
Petroleum
Refuse as fuel
Solar energy
Tide power
Wave power

NEWSPAPER ARTICLES

The *New York Times Index* provides extensive abstracts for articles appearing in the *New York Times*. It is issued twice a month, with quarterly and annual cumulations. Consult "How to use the New York Times Index" in the index volume itself for guidance. Examples of some search terms are provided.

Atomic energy
Energy and power
Fuel
Geothermal power
Oil (Petroleum) and gasoline

National Newspaper Index (microfilm)

National Newspaper Index indexes the *Christian Science Monitor*, *New York Times*, *Wall Street Journal*, *Los Angeles Times*, and *Washington Post*. References from the last five years are listed alphabetically by subject headings. Cross references are included to aid searching. An online version of this index is available commercially.

Newssearch

Newssearch is the daily update of *Magazine Index*, *National Newspaper Index*, and *Legal Resource Index*. It provides front-page to back-page indexing of the *Christian Science Monitor*, *Wall Street Journal*, and *New York Times*, as well as popular magazines, law journals, and legal newspapers. There may be a fee for searches.

NEXIS

NEXIS is an online search and retrieval service with numerous subfiles of information. The NEXIS database includes the full text of many newspapers, including *Legal Times*, *National Law Journal*, the *New York Times*, the *Washington Post*, and the *Christian Science Monitor*; full text of major wire services, including AP, UPI, and Reuters; full text of many newsletters and magazines; full text of some government publications; abstracts to many current affairs magazines and major U.S. newspapers; and other information. Ask a reference librarian if NEXIS is available in your area. There may be a fee for NEXIS searches.

Other newspaper indexes

Bell & Howell Co. produces a set of indexes which list articles appearing in the *Boston Globe*, *Christian Science Monitor*, *Denver Post*, *Detroit News*, *Houston Post*, *Los Angeles Times*, *New Orleans Times-Picayune*, *San Francisco Chronicle*, *St. Louis Post-Dispatch*, and *USA Today*. University Microfilms International produces monthly and annual indexes for the *Atlanta Journal*, *Atlanta Constitution*, *Chicago Tribune*, *Los Angeles Times*, and the *Minneapolis Star and Tribune*.

In addition, many newspapers are indexed locally; ask a public librarian about indexes to your local newspaper.

GOVERNMENT PUBLICATIONS

Federal depository library program

Under this program, Government publications are made available to designated depository libraries. In order to provide the general public with greater access to Government publications, these libraries are located in each State and congressional district. There are currently over 1,350 depository libraries. Of this number 50 have been designated as regional depositories. The regional libraries assume the responsibility of retaining depository material permanently and of providing inter-library loan and reference service in their regions. Copies of documents no longer available for sale can usually be found in regional Federal depository library collections. Each issue of the *Monthly Catalog of United States Government Publications* (see below) prints a current directory of these regional libraries. A directory of all depository libraries is available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Government Reports Announcements and Index

Government research reports are indexed in the *Government Reports Announcements and Index*, which is issued twice monthly by the National Technical Information Service (NTIS). A keyword index lists significant words from titles. The *NTIS* index is available online commercially.

Monthly Catalog of United States Government Publications

The *Monthly Catalog* lists documents issued by all branches of the Federal Government. The catalog has monthly, semiannual, and annual indexes arranged by author, title, subject, keywords, and series/report title. The *Monthly Catalog* is often the access point for materials in Government depository libraries; it may also be used to obtain information for ordering materials for purchase from the Superintendent of Documents at the U.S. Government Printing Office. The *Monthly Catalog* is commercially available online. Library of Congress subject headings are the catalog's subject authority. Therefore, see SEARCH TERMS under **BOOKS** in this guide.

LEGISLATIVE INFORMATION

Congressional activities on U.S. policy towards energy conservation may be monitored by searching the following printed publications:

Congressional Quarterly Weekly Report

Congressional Quarterly Weekly Report provides current information on congressional activities, the progress of major bills, and background information on major policy issues. Important recent articles are indexed on the back cover of each issue. Consult this index under the heading "Foreign Policy". A quarterly and annual index are also issued; search under such headings as coal, energy conservation, natural gas, oil industry, solar and renewable energies. Cross references are also provided.

Congressional Quarterly also publishes an annual volume which cumulates material from the weeklies. There is an index at the back of each volume.

Congressional Record

The *Congressional Record* provides an edited transcript of the activities on the floor of the House and the Senate. It is published each day Congress is in session. Subject and name indexes are published biweekly and cumulated annually. Search under such topics as:

Coal
Electric power
Natural gas
Nuclear energy
Petroleum
Power resources

BILLS AND RESOLUTIONS

CIS Index

The *CIS Index*, produced by the Congressional Information Service, abstracts all congressional publications except the *Congressional Record*. The *Index* is published monthly and cumulated quarterly and annually. Each issue of the *Index* is divided into index and abstract portions. Search in the index section under such headings as:

Energy alternatives
Energy conservation
Fuel
Nuclear power
Petroleum and petroleum industry
Solar energy

Also use the cross-references provided. Refer to the abstract section for full bibliographic information. CIS also provides legislative histories of significant public laws enacted.

Digest of Public General Bills and Resolutions

The *Digest* summarizes the essential features of public bills and resolutions and changes made in them during the legislative process. The *Digest* is published during each session of Congress in two cumulative issues and a final issue at the conclusion of the session. The *Digest* has sponsor/cosponsor, identical bills, short title, and subject indexes. Search under "Energy," "Environmental protection and conservation," "Petroleum and petroleum products," or "Nuclear energy and power." Cross references are provided.

Major Legislation of the Congress

The *MLC* provides summaries of selected major legislation arranged by subject. It includes background on the issues and information on the content and status of major bills affecting that issue. The publication may be examined at a Government depository library or purchased from the Government Printing Office. Search under the headings "Energy" and "Environmental protection."

American Statistics Index (ASI)

The *American Statistics Index* indexes and describes the statistical publications of the U.S. Government, including periodicals, annuals, biennials, semi-annuals, and special publications. The *Index* provides access to statistical materials by subject, organization, name, issuing source, and title. The *Index* is published monthly and cumulated quarterly and annually. *ASI* is available online commercially.

Statistical Reference Index

The *Statistical Reference Index* provides a guide and index to selected statistical reference material from non-Federal sources on a wide spectrum of subject matter. It includes the publications of trade, professional, and other non-profit associations and institutions, business organizations, commercial publishers, university and independent research centers, and State government agencies. The *Index* provides access by subject, organization, name, issuing source, and title. The *Index* is published monthly and cumulated annually.

Index to International Statistics (IIS)

The *Index to International Statistics*, which is published monthly with annual cumulations by CIS, is "a guide to statistical publications of international intergovernmental organizations." This index provides information on foreign trade, health, demographic trends and political characteristics. Beginning in 1983, *IIS*, provides a master guide and index to current English language access to these materials on microfilm.

REFERENCE SOURCES

Selected periodicals

Alternative sources of energy
Ambio
American scientist
Chemtech
Energy abstracts for policy analysis
Energy information abstracts
Energy policy
Energy research abstracts
Energy systems and policy
Environment
Issues in science and technology
Journal of energy and development
Natural resources and environment
New scientist
Oil & gas journal
Petroleum abstracts
Petroleum/energy business news index
Public power
Public utilities fortnightly
Resources and conservation
Science
Scientific American
Solar energy

GUIDES TO ORGANIZATIONS

There are hundreds of organizations with an interest in energy policy, some of them may be able to provide information by correspondence. The list of books which follows is a selection of some of the many available guides to organizations.

Encyclopedia of associations. Detroit, Michigan, Gale Research Company. 4 v.

"The Encyclopedia of Associations consists of the following volumes: Volume 1, National Organizations of the United States, detailed descriptions of national trade, professional, and other organizations; Volume 2, Geographic and Executive Indexes, covering material in Volume 1; Volume 3, New Associations and Projects, periodic reports listing additional associations not included in Volume 1. Volume 4, International Organizations, detailed descriptions of international trade, professional, and other organizations; and, International Organizations Supplement, periodic reports listing additional associations not listed in Volume 4."

Encyclopedia of governmental advisory organizations. Detroit, Mich., Gale Research Co.

"A reference guide to approximately 5,000 permanent, continuing, and ad hoc U.S. presidential advisory committees, congressional advisory committees, and other agencies." Use the name and keyword index in Volume 1, Part 3.

Research Centers Directory. Edited by Robert C. Thomas and James A. Rullner. Detroit, Mich., Gale Research Co.

A guide to university-related and other nonprofit research organizations established on a permanent basis and carrying on continuing research programs in agriculture, business, conservation, education, engineering and technology, government, law, life sciences, mathematics, area studies, physical and earth sciences, social sciences, and humanities.

Federal Government agencies

The following is a list of some of the Federal agencies which may be able to provide materials on the debate topic. Some sources listed in the previous section will provide information about agencies listed here and other agencies.

U.S. Dept. of Energy
Energy information Administration/DOE
1000 Independence Ave., N.W.
Washington, D.C. 20585

Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37830

Environmental Protection Agency
Public Information Center
401 M. St., S.W.
Washington, D.C. 20460
(202) 382-2080

The Library of Congress
Washington, D.C. 20540
(202) 707-5528
Hours: 8:30 a.m.-5:00 p.m., M-F
The Reading Room facility of the Science and Technology Section is open to the public (ages 18 years and over) from 8:30-5:00, Monday-Friday. Students are encouraged to consult their university or college library or research facility library as a first resource.

Subject Bibliography

SB-176
August 11, 1989

U.S. Government Printing Office Superintendent of Documents

PUBLICATIONS RELATING TO THE 1989-90
COLLEGE DEBATE TOPIC

Resolved: That the Federal Government Should Adopt an Energy Policy Which Substantially Reduces the Non-Military Consumption of Fossil Fuels in the United States.

* *

___ Annual Energy Outlook, 1989, With Projections to 2000. *Provides outlooks for: world oil prices; energy efficiency; oil supply "vulnerability"; and United States markets for petroleum natural gas, electricity, and coal.* 1989: 89 p.; ill.
E 3.1/4:989 S/N 061-003-00605-1 $ 4.50

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